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Northern Region

# ENVIRONMENTAL IMPACT STATEMENT VOL. I

## FOREST PLAN



**Clearwater National Forest**

Orofino, Idaho  
September, 1987

ENVIRONMENTAL IMPACT STATEMENT  
of the  
CLEARWATER NATIONAL FOREST  
LAND AND RESOURCE MANAGEMENT PLAN

September 1987

Benewah, Clearwater, Idaho, Lewis, Nez Perce, Latah, and Shoshone  
Counties in Idaho

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This Environmental Impact Statement describes the Preferred Alternative and eleven alternatives, including the "current direction" alternative for managing the 1.8 million acres of the Clearwater National Forest. The twelve alternatives provide different mixes of management activities resulting in different levels of outputs, goods, and services. The environmental consequences for all the alternatives are displayed.

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## SUMMARY

This summary condenses chapters 1 through 4 of the Environmental Impact Statement (EIS) for the Clearwater National Forest Plan.

### I. PURPOSE AND NEED

This document describes a proposed action and alternative actions for management of the land and resources of the Clearwater National Forest. It describes and documents the analysis of each alternative, and discloses the environmental consequences of implementing each. This EIS was developed under direction from the National Forest and Rangeland Renewable Resources Planning Act (RPA), National Forest Management Act (NFMA), National Environmental Policy Act (NEPA), and their implementing regulations.

The Preferred Alternative is the basis for the Forest Plan which is a separate document. Reasons for the decision and selection of the Forest Plan can be found in another document, the Record of Decision.

#### A. FOREST LOCATION

The Forest contains 1,837,116 acres in north central Idaho and encompasses the North and Middle Forks of the Clearwater River and the Lochsa and Palouse River drainages. These rivers are part of the Snake and Columbia River System. The Forest lies west of the Montana border in the Bitterroot Range and is approximately 100 miles east of Lewiston, Idaho. It is located in Clearwater, Benewah, Shoshone, Idaho, Lewis, and Latah Counties in Idaho.

The Forest Supervisor's office is located in Orofino with District Ranger offices in Kamiah, Kooskia, Orofino, Powell, and Potlatch, Idaho.

#### B. ISSUES, CONCERNS, AND OPPORTUNITIES

To determine the scope of the Forest Plan and EIS, issues and concerns were identified from comments solicited from the public. The initial scoping process began in November of 1979 and has continued throughout the planning process. Two sets of major issues have been identified; the original set was from the 1979 scoping process and culminated in the Draft Environmental Impact Statement (DEIS) and Proposed Forest Plan which was released for public comments in May 1985. The second set resulted from comments about these documents and is displayed in this EIS and Forest Plan. (See Appendix A for further information about the issues, concerns, and opportunities.)

As a result of the evaluation of these public comments, emphasis shifted in the original fifteen major issues. Three original issues were retained verbatim; five were dropped but are still addressed in this EIS and Forest Plan. One issue was dropped entirely, and some were combined or split into several major issues. In addition, some new issues emerged. They are:

1. Visual Resource: How should the Forest manage visual resource objectives when these objectives may restrict timber harvesting?

2. Cultural Resource: What type of management will be provided for archeological and historical resources, especially the historic Lolo Trail corridor?
3. Special Areas: What additional areas will be identified as Research Natural Areas or special or unique?
4. Wilderness and Roadless: Which lands should be considered for wilderness classification and which should be designated to unroaded management?
5. Wild and Scenic Rivers: Which streams should be considered as candidates for Wild and Scenic River status?
- 6 and 7. Wildlife: How will the Forest manage wildlife habitat on winter range? How will key summer range be managed after timber is harvested?
- 8, 9, 10, and 11. Timber Production: To what extent can the Forest meet the demand for a continued supply of timber to support local community stability? How will the Forest evaluate unsuitable and suitable timberlands? How will the Forest decide which silvicultural system to use? Should timber sale receipts cover the cost of harvesting timber?
12. Water and Fish: What standards should be followed to ensure high water quality and fish habitat?
13. Riparian Areas: How will the Forest manage timber in riparian areas?
14. Road Construction: How will the Forest evaluate road construction, design standards, and projected road costs? How will the Forest manage roads?
15. Energy Transmission Corridor: How will the Forest comply with the Bonneville Power's request to consider an energy transmission corridor window across the Clearwater Forest?

#### C. CHANGES BETWEEN THE DRAFT and FINAL EIS

The changes in the EIS and Forest Plan are the result of the combined input from all comments including in-service reviews. Categories of change include:

- Modification of the Proposed Action in the DEIS to form a new Preferred Alternative,
- Improvement of analyses and displays,
- Factual and editorial corrections,
- Clarifications, and
- Revised management standards and projected outputs.

A new alternative, K, was developed between the Draft and Final. This alternative is a modification of the former Proposed Action, Alternative E. Alternative K is now the Preferred Alternative.

In response to input from proponents and users of research natural areas (RNA's), the Forest has increased the size of the Aquarius proposed RNA from 900 to 3900 acres and added the 330 acre Four-Bit area.

Information concerning potential Wild and Scenic River candidates in the Clearwater has been added to the Final Plan and EIS.

The elk winter range habitat improvement program was reduced and changed to respond to public input and concerns of the Idaho Fish and Game and Forest Service.

The Forest Plan modifies the management direction for key elk summer range by adding a new Management Area, C8S.

The allowable sale quantity (ASQ) has increased from 160 MMBF to 173 MMBF to respond to strong public concerns of adequate timber supply and local community stability. Noninterchangeable volume is now reflected in the ASQ of all alternatives in the first decade.

At the same time, recommended wilderness and undeveloped areas have increased. The suitable land was maintained at nearly the same level by including less efficient lands which weren't included in the initial analysis.

Water quality standards and guidelines remained essentially the same, except some resident fishery standards in a few specific streams were lowered in the developed portion of the Forest.

The projected annual timber outputs decreased in riparian areas.

To further protect the soil and water resources, standards have been added that require special analysis for identified problem soils.

Projected road construction will increase from 62 to 69 miles a year to support the increases in allowable timber sale quantity.

Other changes consisted of identifying a energy transmission corridor; strengthening the economic impact section in Chapter 2 and Appendix B; strengthening Forestwide direction to promote the use of integrated pest management techniques and methods; and reducing the rate of timber price increases over time which results in lower timber price assumptions.

## II. ALTERNATIVES

The alternatives reflect different management objectives by varying combination of land designations, levels of resource outputs, expenditure levels, and assignments and schedules of management activities. Values shown for decade one are planned outputs and expected effects for each alternative. Values for decade two through fifteen are projections and are only for the purpose of showing effects.

### A. RANGE OF ALTERNATIVES

Once the issues were known, information was needed to determine the Forest's capability to respond to each issue. This was done in an analysis of the management situation which included examining resource data, economics

information, and environmental and legal constraints. This analysis established a basis for the range of alternatives.

Resource supply potentials were determined by establishing minimum and maximum production levels called benchmarks using the FORPLAN computer model. An adequate range of alternatives was developed by first formulating alternatives that were required by regulations or policy. These alternatives were then examined to determine where they fit in the range of outputs expressed by the benchmarks, and how well they responded to the issues. Additional alternatives were then developed that respond in varying degrees to the major issues.

## **B. DESCRIPTION OF ALTERNATIVES**

Twelve alternatives were considered in detail. All of the alternatives maintain the existing Selway-Bitterroot Wilderness acreage at the present 259,165 acres. None of the alternatives propose eliminating the use of timber management on lands that have been developed for that use. Therefore, the variation between alternatives is made up largely by how the 950,311 acres of roadless lands are designated and the intensity of management on these acres as well as the roaded acres.

The Potlatch Corporation and Wilderness Society, each submitted an alternative to be considered. It was decided not to display them, because the range of outputs and effects were within the range of outputs in the existing alternatives.

### **1. Alternative A (Current Direction)**

Alternative A is the "current direction" alternative. It was not designed to respond to newly identified issues, concerns, or opportunities. Besides the Selway-Bitterroot Wilderness, four areas are recommended for wilderness; these are the areas proposed for wilderness in RARE II. Opportunities for roaded natural recreation increase as approximately 5,700 miles of roads are constructed during the fifteen decades. Elk herds increase to over 6,000 more elk than the current population. The water quality/fishery objectives are moderate fishable across most of the Forest except low fishable in the roaded portion of the Pierce District and minimum viable in the Palouse District. Timber harvest levels increase from the current level of 181 MMBF to 348 MMBF/per year by the fifth decade. No new research natural areas are proposed. The present net value (PNV) for the planning horizon is \$1,093,800,000 discounted at 4 percent.

### **2. Alternative B**

The goal of Alternative B is to produce the maximum amount of market outputs (timber and range forage). No additional areas are recommended for wilderness. No roadless areas are left undeveloped. Opportunities for dispersed recreation change in later years from a mix of roaded natural and primitive experiences to more roaded natural. Elk herds increase from accelerated timber harvest on the winter range in the early decades but decrease to 10,200 elk in decade 15 as the animals lose their hiding cover on summer range. Water quality is lowered, but not below the level that provides

for a potential low fisheries over most of the Forest. Timber harvest levels increase from 225 MMBF/per year in decade one to 543 MMBF/per year in decade five. No new research natural areas are proposed. The present net value for the planning horizon is \$1,231,500,000 discounted at 4 percent.

### 3. Alternative C

Alternative C produces a high level of market outputs (timber and range forage) while providing for moderate fishery habitat conditions and elk habitat production. This alternative responds to the 1980 RPA program. The recommended new wilderness areas correspond to those proposed by the timber industry in Idaho. This alternative recommends 45,471 more acres as wilderness management and 70,685 acres as unroaded area management. Approximately 20,600 elk are supported in the third decade, but decrease to 11,600 elk in decade 15 as the animal lose their hiding cover on summer range. Fish populations are maintained at a moderate level except in the roaded portions of the Pierce District which maintains a low level and Palouse District which supports a minimum viable population. About 213 MMBF of timber is harvested annually in the first decade which increases to 533 MMBF/per year in the fifth decade. Besides the existing Lochsa Research Natural Area (RNA), 3,886 acres are proposed for research natural areas. The present net value for the planning horizon is \$1,239,100,000 discounted at 4 percent.

### 4. Alternative D

Alternative D is designed to provide a mix of market and nonmarket outputs with emphasis on market goods from lands suitable for that purpose. This alternative represents wilderness proposals by the Idaho Congressional Delegation. Approximately 130,430 additional acres are recommended for wilderness. In addition to the wilderness, 293,237 acres remain roadless. Opportunities for roaded natural recreation increase while semiprimitive and wilderness opportunities eventually decrease. Elk population increase to a minimum of 18,700 elk on winter range throughout the fifteen decades. As stream sediment increases, fish habitat is disturbed, but populations remain above the high potential fishery level in most of the Forest. During the first decade, 176 MMBF of timber is harvested annually. This increases to a long-term sustained yield (LTSY) of 429 MMBF annually. The present net value for the planning horizon is \$1,089,200,000 discounted at 4 percent.

### 5. Alternative E

This alternative provides a mix of market and nonmarket outputs with emphasis on timber production, fishery and elk habitat. It was the Proposed Action in the draft documents. A total of 188,871 acres are recommended for wilderness. An additional 188,400 acres within six different areas will remain roadless. A minimum of 18,700 elk on winter range is supported throughout the planning horizon. A high level of fisheries is maintained on all roadless lands, Lolo and Elk Creek, and across most of the Forest. A low fishery level is obtained across most of the roaded portion of the Pierce District and a minimum viable level across most of the Palouse District. Anadromous smolt population is higher than present because of restrictive management activities. A total of 4,651 additional acres are designated to RNA's. Timber

harvest increases from 160 MMBF/year in decade one to a L<sup>T</sup>SY of 443 MMBF/year. The present net value for the planning horizon is \$1,053,700,000 discounted at 4 percent.

#### 6. Alternative E1

This alternative illustrates a departure from the nondeclining timber yield policy in Alternative E, formerly the Proposed Action. Timber harvest declines to 146 MMBF/year in decade one but increases to a L<sup>T</sup>SY of 443 MMBF/yr. All other objectives are the same as Alternative E. The present net value for the planning horizon is \$1,260,500,000 discounted at 4 percent.

#### 7. Alternative F

Alternative F emphasizes wilderness, potential elk production, and primitive recreation by recommending 297,248 acres of new wilderness in five areas while intensively managing areas suitable for timber. Elk population increases to a minimum of 20,900 animals on winter range throughout the planning horizon. A potentially high level of fish production is maintained except in the Palouse District, and the roaded portion of Pierce District. Timber harvest is 160 MMBF per year in the first decade and increases to a L<sup>T</sup>SY of 361 MMBF/yr. An additional 7,651 acres are recommended as research natural areas. The present net value for the planning horizon is \$1,007,100,000 discounted at 4 percent.

#### 8. Alternative G

This alternative is designed to respond to the Chief's direction to provide one alternative that has a substantial wilderness proposal while emphasizing market outputs from lands already developed and from selected roadless lands especially suited for timber production. Alternative G depicts the Idaho Wilderness Coalition's proposal for wilderness. Elk populations increase to 18,400 animals in the third decade, but then declines to a low of 12,400 by the fifteenth decade. The fishery objective is low fishable across most of the Forest. An annual harvest of 191 MMBF of timber is harvested the first decade; then increases to a L<sup>T</sup>SY of 442 MMBF/yr. Eight new areas are recommended for research natural areas. The present net value for the planning horizon is \$1,127,800,000 discounted at 4 percent.

#### 9. Alternative H

Alternative H provides high levels of nonmarket values from the undeveloped portion of the Forest by designating roadless areas to uses that restrict or prohibit road access. Market goods are produced from developed areas, but at levels which may be restricted because of other resource values. A total 715,523 additional acres are recommended for wilderness. A minimum of 16,500 elk is supported on winter range throughout the planning horizon. The water quality/fishery objective is high fishable across most of the Forest. Anadromous smolt and cold-water fisheries increase. For the first decade, 139 MMBF of timber is harvested; this increases to a L<sup>T</sup>SY of 316 MMBF/yr. Eight new areas are recommended for research natural areas. The present net value for the planning horizon is \$898,400,000 discounted at 4 percent.



#### 10. Alternative I

All roadless areas are recommended as wilderness in Alternative I. It continues market outputs at moderate levels from lands already developed. Opportunities for recreation in a wilderness setting exceed the projected use for the entire planning horizon. Elk population increases to a high of 16,700 elk by the third decade. The water quality/fishery objective is high fishable across most of the Forest. Approximately 117 MMBF of timber is harvested during the first decade; this increases to a LTSY of 255 MMBF/yr. Eight new areas are recommended for research natural areas. The present net value for the planning horizon is \$753,500,000 discounted at 4 percent.

#### 11. Alternative J

Alternative J is similar to Alternative D in outputs and effects but differs in the amount of roadless area recommended for wilderness and the amount of timber land available for timber management. Wilderness increases with the addition of 258,289 acres. A minimum of 18,700 elk on winter range are maintained for the fifteen decades. The water quality/fishery objective is high fishable across most of the Forest. In the first decade, 176 MMBF is harvested annually; this increases to a LTSY of 431 MMBF/yr. Eight new areas are recommended for research natural areas. The present net value for the planning horizon is \$1,095,400,000 discounted at 4 percent.

#### 12. Alternative K (Preferred Alternative)

Alternative K is the Preferred Alternative. It is similar to D, E, F and J, and it provides a good mix of market and nonmarket outputs. Recommended wilderness and areas to remain undeveloped increase to 198,200 and 242,240 acres respectively. Elk increase to 29,200 in decade three on both summer and winter range. Water quality is essentially the same as Alternative E, at high levels. Timber harvest in the first decade increases slightly from the current level to 173.3 MMBF with LTSY of 440 MMBF/yr. Nine new areas are recommended for research natural areas. The present net value for the planning horizon is \$1,124,100,000 discounted at 4 percent.

### C. COMPARISON OF ALTERNATIVES

The following summary table compares key resource and economic outputs.

Table S-1

## Comparison of Alternatives Summary Table

	Alternatives											
	A	B	C	D	E	E1	F	G	H	I	J	K
	(cd)											(pa)
Annual Timber Harvest in Decade 1 (MMBF)	180 9	225 3	213 1	176 1	159 5	145 5	159 6	190 9	138 8	117 4	176 2	173 3
Total New Roads (miles) in Decade 1	62	69	64	62	62	61	55	61	43	29	62	69
Total New Wilderness (M acres)	190 3	0	45 5	130 4	188 9	188 9	297 2	454 0	715 4	950 3	258 3	198 2
Roadless (M acres)	92 7	0	70 7	293 3	188 4	188 4	290 5	0	14 4	0	168 9	242 2
Projected Annual Livestock Use (AUMs)	16	16	16	16	16	16	16	16	16	16	16	16
Total Elk in Decade 2 (M Elk)	20 3	19 9	21 2	26 3	24 8	23 8	24.4	19 0	21 1	16 7	26 3	24 3
Total Anadromous Fish in Decade 5 (M Smolt)	545 7	325 7	562 3	604 7	616 3	446 6	584 3	562 9	589 2	604 1	595 7	591 2
Present Net Value at 4% (MM dollars)	1094	1232	1239	1089	1054	1261	1007	1128	898	754	1095	1124
Discounted Costs at 4% (MM dollars)	477	522	502	460	449	528	427	477	401	365	460	480
Discounted Benefits at 4% (MM dollars)	1571	1754	1741	1549	1503	1789	1434	1605	1299	1119	1555	1604
Local Forest Employ- ment in Dec 1 (jobs)	3383	3923	3770	3340	3132	2979	3132	3514	2897	2638	3340	3395

### III. AFFECTED ENVIRONMENT

#### A. GENERAL SETTING

The Forest has a rugged mountainous terrain with v-shaped canyons, steep slopes, and narrow ridges. Of the three broad vegetative ecosystems represented in the Forest, cedar-hemlock-white pine ecosystem is the most predominant. Annual precipitation varies from 30 inches to over 100 inches with snow accounting for 40 percent at lower elevations and 80 percent in higher elevations. Forty percent of the annual precipitation falls during November through January.

Resource outputs from the Clearwater National Forest provide substantial support to the economy of the counties located in the vicinity of the Forest. Timber, recreation, and Federal employment provide income for local residents. A percentage of the gross receipts from timber, grazing permits, mineral leases, special use permits, and campground fees are returned to State and local governments.

#### B. THE CURRENT RESOURCE SITUATION

1. Recreation - The main Forest attractions are big game including elk, moose, deer, black bear, mountain lions; several large free flowing rivers; a number of mountain lakes; a diversity of Forest vegetation; and significant scenic qualities which enhance all recreation. The Selway-Bitterroot Wilderness and other roadless areas also attract many visitors and much attention. Developed facilities include 21 campgrounds with a total of 358 camping units, 4 picnic areas with 83 picnic units, 5 minor interpretive sites and 2 small visitor information sites.
2. Wild and Scenic River - Three different streams are being studied for potential classification into the Wild and Scenic River System.
3. Visuals - The Clearwater's landscape varies from flat grasslands to steep, high rocky, nonvegetated mountain peaks interspersed with meadows, waterfalls, rivers, and small mountain lakes. Most of the views from the major rivers are natural appearing, but vegetation around many of the lakes has been changed by overgrazing and by camping activities.
4. Cultural Resources - With the exception of the Palouse Ranger District, most of what is now the Clearwater was prehistorically occupied by the Nez Perce Indians. Studies generally center upon the Lolo Trail corridor. Certain sections of the Forest also contain significant mining history.
5. Wilderness, Roadless, and Special Areas - Approximately 66 percent of the Clearwater is roadless and undeveloped. Of this, 950,311 acres are inventoried as roadless and 259,165 acres are classified as the Selway-Bitterroot Wilderness. Included within the roadless area are portions of the Middle Fork-Lochsa Recreation River and the entire Lochsa Research Natural Area.

6. Wildlife - The Forest has a wide variety of habitats that support over 350 different species of wildlife. Hunttable populations of elk, moose, mountain goats, mountain lions, white-tailed and mule deer, and black bears are present.

The Northern Bald Eagle and the gray wolf are endangered species. No bald eagle nests have been identified. The Forest does have wolf habitat with high potential of supporting a population of wolves. The Forest is not recognized as having any grizzly bear habitat.

7. Fish - The Clearwater contains some of the most significant and valuable fishery resources in the nation; streams such as Kelly Creek and Cayuse Creek rank among the top cutthroat trout streams. The Forest provides high quality spawning and rearing habitat for a variety of salmonid fisheries with 714 miles of anadromous fisheries habitat and 4,304 miles of resident fisheries habitat.

8. Range - The Forest currently provides livestock grazing for 16,000 animal unit months (AUM's) on 53 range allotments. None of the allotments are being fully utilized at present.

9. Timber - About 1.6 million acres, including classified acres, are capable of producing timber in excess of 20 cubic feet per acre per year. Timber harvest activity in the past has been concentrated on about 40 percent of this area.

10. Watershed - Watershed conditions are good, and water quality is high. Sediment from road construction, timber harvest, and mining cause the most water pollutants. Downstream water supplies from the Forest are important for power generation, irrigation, water transportation, city water systems, sport and commercial fisheries, and water-based recreation.

11. Minerals - Gold, silver, copper, titanium, magnetite, lead, zinc, and iron are some of the metallic minerals found in the Forest. Kyanite, clay, asbestos, feldspar, and garnet are some of the nonmetallic minerals. At present there are no large mining operations. Based on current knowledge, no potential oil or gas or coal exists in the Forest.

12. Human and Community Development - The Clearwater's goal is to provide a Forest program which will assist people and communities while achieving Forest resource management objectives. The Forest now has and has had programs which provide employment, job training, and environmental education to youth and senior citizens, many of whom are economically disadvantaged.

13. Lands - The number of special uses is largest in the Palouse District where intermingled ownership pattern and type of use on adjacent private land create particular demand on Forest Service land. The Forest has acquired 157 scenic easements to retain visual character of the land in the Middle Fork-Lochsa Wild and Scenic River Corridor.

14. Road Systems - Access is provided by a network of Federal, State, and county roads and by about 4,275 miles of Forest system roads. The present road system provides access to about 34 percent of the Forest's land area.

15. Protection - Since 1960, the Forest has averaged 105 lightning and 13 person-caused fires per year. Blister rust and the mountain pine beetle have combined to nearly eliminate vast areas of western white pine. These and other dead fuels exist in fuel loads exceeding 100 tons per acre, often on 60 percent slopes. The Forest must also protect air quality. The largest sources of air pollution are wildfires, prescribed burns, and dust from unpaved roads.

#### IV. ENVIRONMENTAL CONSEQUENCES

Environmental consequences are the expected effects of activities scheduled to implement an alternative. They are described as quantitative or qualitative changes from the current situation in terms of significance, magnitude, and duration.

##### A. WILDERNESS

The establishment of additional wilderness in the Forest would preclude timber harvest, wildlife habitat management, and may limit grazing and mining. Ecosystems would be undisturbed.

##### B. DEVELOPED RECREATION

The 591 acres occupied by developed sites have little effect on outputs of other resources. Wood fiber and forage which could be produced on developed sites are would be foregone. Wildlife habitat is significantly modified. Animals sensitive to man's presence usually vacate developed sites during seasons of use.

##### C. DISPERSED RECREATION

Management activities of dispersed recreation change between alternatives according to land designations. Effects are localized in small areas with soil compaction, overland flow, erosion, and degraded water quality occurring in areas of concentrated use. Such effects will not be significant.

##### D. UNROADED DESIGNATION

Unroaded designations affect timber harvest. Natural settings are preserved including old-growth timber. There is a risk of more intensive wildfires because of limited access. Mineral entry is more difficult because of the lack of roads.

##### E. CULTURAL RESOURCES

Sites where ground-disturbing activities are planned will be inventoried. Some ground-disturbing activities could inadvertently enter and disturb some cultural resources.

#### F. THREATENED AND ENDANGERED SPECIES

No alternative is expected to adversely affect a T & E species. If there are conflicts between man and T & E species (which can be plant or animal), they would be resolved in favor of the species. Road construction and timber production in proximity of essential T & E habitat will be managed in favor of the specific species.

#### G. WILDLIFE HABITAT IMPROVEMENT

Prescribed fire and timber harvest are the main activities conducted to maintain or increase the quality of forage on big-game winter range. The burning of big-game winter habitat during the summer is now considered to be the most beneficial, although spring burning is still generally more cost effective, because of less need for control measures. Research has shown that more browse seedlings can be established by summer burning than burning in the spring. Effects of planting and fertilizing for forage are mostly positive in that soils are protected, forage is produced, and scenery is improved, but maintaining sites in the forb-brush stage for an extended period of time may reduce the timber productivity of the site.

#### H. FISH HABITAT IMPROVEMENT

Fish habitat improvement improves fish production. The major problems affecting fish habitat are excess sediment from roading and logging, removal of habitat structure(s), and lost of diversity through placer mining and timber harvest. Sediment affects fish by reducing available space for rearing and by degrading quality spawning gravel which decreases egg to fry survival. Habitat improvements may result in minor disturbance to access sites. By producing more fish it may provide economic support for the fish industry downstream and for recreationists.

#### I. MINERALS

Placer mining may cause degradation to water and fish. Some vegetative productivity may be disturbed for a short time with any type of mining activity. Soil, wildlife, and scenery may also be adversely impacted. Mining claims also may conflict with scheduled timber management activities.

#### J. SOCIAL AND ECONOMIC IMPACT

Forest management, principally timber production, effect the employment and economic situations within local communities. The higher the outputs of timber, the greater the benefits to the local economies wholly or partially dependent upon the timber industry. To a certain extent, high timber volumes can have an adverse affect on wildlife and fisheries, especially anadromous fisheries, which in turn can affect tourism, local recreation, and Indian Tribal rights.

#### K. SPECIAL USES

Special uses may have many different effects on the environment, but each project will be evaluated as the need arises.

#### L. FIRE PREVENTION AND SUPPRESSION

Suppression protects the Forest's resources from burning. Soil disturbance can result from suppression activities. If retardant is used, the chemicals may affect the water quality.

#### M. RANGE MANAGEMENT

Riparian areas and associated resources are affected by livestock grazing. Fishery habitat may be degraded by stream bottom disturbance, increased turbidity, and stream sedimentation. In some areas soil compaction and vegetation disturbance may occur. Livestock may also annoy recreationists.

#### N. TIMBER MANAGEMENT

Timber harvest impacts depend on the specific harvest method and the location and rate of the harvest. Most timber cut in the Forest will be even-aged harvest with shelterwood and clearcut methods being used. Even-aged harvest can disrupt trail systems, settings for recreation, and scenery. Stream sedimentation levels increase but at far lower rates than those caused by road construction. Even-aged harvest also causes reductions in big-game cover, but increases diversity for other wildlife species which prefer sparse canopies. Uneven-age harvest systems will be practiced in riparian areas or areas highly sensitive to viewing areas.

Soil disturbance occurs when tractors skid logs. Fewer roads are necessary for skyline or aerial logging systems than for tractor or cable systems. Slash disposal reduces the potential for fire and the spread of insects and disease.

Site preparation reduces competing vegetation for seedlings. Slash burning affects local residents and recreationists by creating smoke and degrading air quality for short periods of time.

#### O. ROAD SYSTEM

Road construction and maintenance have a greater effect on other resources than any other Forest management activity. Road construction displaces large amounts of soil and increases vehicle access.

Roads, especially vehicle use on them after construction, will generally have a significant adverse affect on big game and summer range. For elk and other big game, security is lost, the animals are displaced, and increased competition results for undisturbed lands. Many wildlife impacts are lessened through road design and location. Additional mitigation is achieved through road closures and scheduling of timber harvests.

Road construction has a greater effect on water quality than any other management activity. Increased stream sedimentation adversely affects

fisheries by reducing water flow, disturbing spawning beds, destroying food organisms, and filling rearing habitat.

#### P. OTHER CONSEQUENCES

The EIS identifies consequences that are direct, indirect, cumulative, or unavoidable; the relationship of short-term use of resources on long-term productivity; and the irreversible and irretrievable commitment of resources.

##### 1. Relationship between Short-Term Use and Long-Term Productivity

Management of the Forest under any alternative balances the demand for goods and services against the need to maintain the long-term productivity of the land and resources. The long-term productivity of the land is maintained or improved by the Forest Plan.

There are some differences between alternatives in their long-term productivity. Alternative B produced the greatest long-term sustained yield of timber products and the most jobs and economic activity in the local area, but limited long-term opportunities for wilderness or semiprimitive recreation. Alternative I produced the most long-term opportunities for wilderness recreation but the least amount of long-term timber supply, jobs, and revenue in the local area. Although the Preferred Alternative doesn't have the greatest productivity, the tradeoffs are considered worthwhile for a more balanced program.

##### 2. Irreversible and Irretrievable Commitment of Resources

An irreversible commitment of resources is one that uses nonrenewable resources. The irreversible commitment of resources anticipated would be the use of fossil fuels in the administration and management of the Forest and the extraction of minerals.

Irretrievable commitments include the lost use and lost production of renewable resources due to a management decision. These commitments are irretrievable rather than irreversible because reversal of these decisions would allow other uses of these resources to occur. Forest decisions to forego production or use of a resource are tradeoffs believed to be worthwhile in providing the goods and services needed to meet future public needs. They include:

- a. Loss of continuous Forest canopy where even-age management is used.
- b. Loss of one type of recreational opportunity when replaced by another type, i.e., loss of semiprimitive nonmotorized opportunities when an area is managed as roaded or the loss of semiprimitive motorized recreation when vehicle use is restricted.
- c. Loss of some types of hunting opportunity due to changes in habitat. For an example, maintaining the Forest in a young-aged condition can produce high populations of elk or white-tailed deer, while maintaining predominately old-aged conditions reduces that opportunity and favors other nongame species.



- d. Loss of production of minerals in areas managed as wilderness.
- e. Loss of commercial timber production due to recommendations for wilderness or undeveloped uses.
- f. Loss of existing and potential future visual conditions when vegetative, waterform, or landform conditions change due to management practices.
- g. Loss of one type of habitat when replaced by another type due to timber and wildlife habitat management, road construction, or common variety mineral development.
- h. Loss of investments made in anticipation of user demands if the demands do not materialize.

### 3. Adverse Effects Which Cannot be Avoided

- a. Despite care and maintenance of recreational sites, roads, and trails, water flow is changed and erosion will occur.
- b. Timber harvest and access roads will alter big-game and nongame habitat. Timber harvest and road construction activities disturb soil which increases sedimentation in streams which can result in decreased fish populations.
- c. Mineral exploration and development disturbs soil which can result in erosion and reduce water quality.
- d. Localized conflicts will exist between livestock and big game.
- e. Construction of roads in roadless areas causes loss of wilderness potential.
- f. Harvest of old growth timber causes loss of habitat for some wildlife species.



# Chapter I

## Purpose and Need

## I. PURPOSE AND NEED

### A. INTRODUCTION

This Environmental Impact Statement (EIS) describes a preferred alternative and other alternatives for the future management of the land and resources of the Clearwater National Forest. The EIS also describes the affected environment and discloses the environmental consequences of implementing the preferred alternative and other alternatives. This document has been prepared in response to public comments on the Draft Environmental Impact Statement and Proposed Forest Plan of May 1985.

The Preferred Alternative identified in this EIS is the basis for the Forest Land and Resource Management Plan (Forest Plan) which is described in a separate document. This analysis and the Forest Plan are designed to ensure multiple use, to provide a sustained yield of goods and services from the Forest, to maximize net public benefits, and to address public issues in an environmentally sound manner. Net public benefits is an expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively value or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index.

Preparation of this EIS and the Forest Plan is required by the Forest Rangeland Renewable Resource Planning Act (RPA), the National Forest Management Act (NFMA), and the National Environmental Policy Act (NEPA). Further direction was given by the implementing regulations of NFMA (36 CFR 219) and NEPA (40 CFR 1500/1508).

Although a 150-year planning horizon is used, the analysis and Forest Plan will guide the management of the Clearwater for the next 10 to 15 years or whenever conditions or demands have significantly changed. While long range-effects have been estimated, the Plan is only valid until it is revised, committing the Forest to a course of action no longer than 15 years. Provision for revision or amendment of the Plan is specified in 36 CFR 219.10(q).

### B. NATIONAL, REGIONAL, AND FOREST PLANNING

The planning process involves the three Forest Service administrative levels: National, Regional, and Forest. Management is based principally upon locally derived information about production capabilities, and reflects conditions and circumstances at all levels while becoming increasingly broader as planning progresses from the Forest to National level. Regional Guides establish management standards and guidelines, identify Regional issues, and distribute RPA targets to Forests. The share of RPA targets for each Forest is based on detailed information furnished by the Forest. Thus, the Forest Plan includes direction provided by RPA, NFMA (including the implementing regulations), and the Regional Guide.

The Forest Plan replaces all previous resource management plans prepared for the Forest. After approval of the Forest Plan, all permits, contracts, and other instruments for the use and occupancy of the National Forest System land will be revised as soon as practical to make them consistent with the Forest Plan (16 USC 1604 [i]). In addition, all subsequent administrative activities affecting the Forest, including budget proposals, will be based on the Forest Plan (36 CFR 219.11 [d]).

Subsequent projects that implement Forest Plan direction will be tiered to this EIS. Environmental analyses will incorporate, by reference, the general discussions in this EIS, and additional analyses will be done for projects not covered by it.

This EIS is the result of the first eight of ten planning actions required by NFMA (36 CFR 219). These eight planning actions are:

1. Identification of issues, concerns and opportunities.
2. Development of planning criteria.
3. Inventory data and information collection.
4. Analysis of the management situation.
5. Formulation of alternatives.
6. Estimated effects of alternatives.
7. Evaluation of alternatives.
8. Selection of alternative.

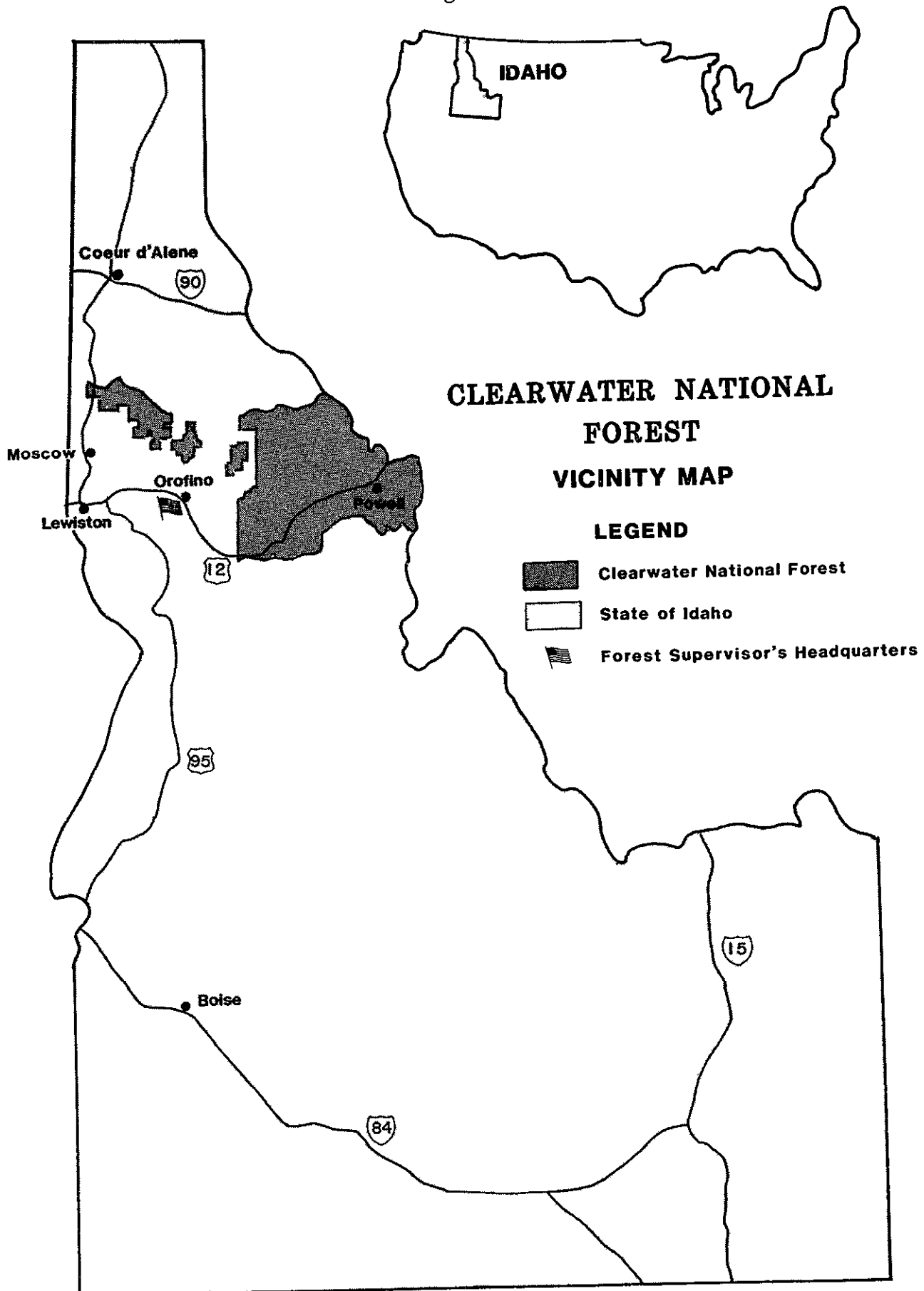
A detailed description of the process used in planning actions 1, 3, 4, 5, and 6 is contained in Appendices A and B of the EIS. Reference is often made to the planning records in both the EIS and the Forest Plan. Planning records, the documents and files which chronicle the first eight planning steps, are available for inspection at the Clearwater Forest Supervisor's Office, U.S. Highway 12, in Orofino, Idaho.

The draft of this EIS, accompanied by the Proposed Forest Plan, was circulated for public comments starting in May 1985. Comments received were used to examine the results of the first seven planning steps and to modify the Proposed Forest Plan. The Regional Forester will use these final documents as the informational base for a record of decision to complete the last two planning steps:

9. Plan implementation.
10. Monitoring and evaluation.

Comments from Indian Tribes and other Federal, State and local agencies are displayed in Chapter VI, along with the Forest replies. A summary of all the other comments and the Forest replies are in Appendix D of the EIS. Since Appendix D is several thousand pages, copies are not readily available for public distribution.

Figure 1



### C. FOREST LOCATION (Figure 1)

The Clearwater National Forest is located in Clearwater, Benewah, Shoshone, Idaho, Lewis, and Latah Counties in north central Idaho. (See Figure 1.) It lies west of the Montana border and is bounded on three sides by four other National Forests: the Lolo in Montana; the Bitterroot in Montana and Idaho; the Nez Perce in Idaho; and the St. Joe in Idaho. The Forest boundary encompasses all or major portions of the drainages of the North and Middle Forks of the Clearwater River, the Lochsa River, and the Palouse River (which are all part of the Columbia River system). The Forest Supervisor's Office is located in Orofino, Idaho.

The Forest consists of 1,837,116 acres of National Forest System lands, and the boundary encompasses 146,083 acres of private and other public lands. Ranger Districts are located in Kamiah, Potlatch, Orofino, Kooskia, and Powell.

When the draft documents were written, the Forest was divided into six Ranger Districts. Since that time, one District, Kelly Creek, was eliminated by dividing it among three other Districts. Powell and Lochsa Districts each gained a few new acres, but the Canyon District boundary changed the most, creating a new District called the North Fork District. However, the analysis on all the alternatives is done on the original six Districts.

Historically, the Clearwater National Forest was inhabited by the Nez Perce Indians. Currently, the Supervisor's Office and all but two of the District offices are located on the Nez Perce Indian Reservation. The Forest has the responsibility to protect their rights as emphasized in Treaties and NFMA.

It also has responsibility to protect the rights of the Bannock-Shoshone, Kootenia, and Coeur d' Alene Tribes to the North and the Warmspring, Yakima, and Umatilla Tribes to the west. All of these tribes are interested in anadromous fish habitat and water quality management of the Clearwater Forest.

A portion (259,165 acres) of the Selway-Bitterroot Wilderness and a portion (25,540 acres) of the Middle Fork-Lochsa Recreation River cover approximately 15 percent of the Forest. Another 52 percent (950,311 acres) of the Forest is also roadless. This total acreage is broken into 16 roadless areas. Of these, five are contiguous with three adjacent National Forests. The Mallard-Larkins and Meadow Creek-Upper North Fork Roadless Areas extend into the Idaho Panhandle National Forest. The Meadow Creek-Upper North Fork also extends into the Lolo National Forest as do the Hoodoo and Lolo Creek Roadless Areas. The Rackliff-Gedney Roadless Area extends into the Nez Perce Forest.

### D. ISSUES, CONCERNS, AND OPPORTUNITIES

The first of the ten planning actions involves identification of issues, concerns, and opportunities to determine the benefits people want from the Clearwater National Forest in the form of goods, services and uses, and environmental conditions. To aid in this step, public meetings/open houses were

held. Four public workshops were held in Moscow, Lewiston, Orofino, and Kamiah during November 1979. And again in 1985 after the draft documents were released to the public, open houses were held in Moscow, Lewiston, Orofino, Kamiah, Boise, Spokane, and Missoula.

Additional public involvement was initiated in September, 1983 to aid in the resolution of the roadless designation questions. Prior to this time, Forest planning efforts had examined a broad range of uses for roadless areas but had not included an evaluation for wilderness designation. The Forest Service had relied on earlier evaluations and recommendations made in the RARE II (Roadless Area Review and Evaluation) final EIS. After the Ninth Circuit Court decision on the RARE II EIS, the NFMA regulations (219.7) were revised to include an evaluation of roadless areas for wilderness in the Forest Planning process.

After the review period of the draft documents, each comment was coded and entered into a "content summary" program on the computer. This program recorded comments per topic. The management team (consisting of Staff Officers, Rangers, and the Forest Supervisor) evaluated the comments and identified issues, concerns, and opportunities (ICO's). They then ranked each, individually, according to the seriousness and the difficulty of resolving the ICO. Next, they considered what type of effort would be needed to resolve the ICO, such as, political, economical, technical, social, or legal. They also considered how the ICO would be resolved, by whom, and when.

As a result of this evaluation, emphasis shifted in the original fifteen issues. Three original issues were retained verbatim; six were dropped but are still addressed in this EIS and Forest Plan. One issue (energy consumption) was dropped entirely because no comments were received about it, and it was not a management concern that needed to be emphasized. Some issues were combined with other issues and one issue, timber, was split into four issues.

Of twenty issues identified by the management team, fifteen became major issues. These are:

1. Visual Resource: How should the Forest manage visual resource objectives when these objectives may restrict timber harvesting?

Although not many respondents expressed concern about visual quality objectives (VQO's), those who did were concerned about the impacts of visual objectives on timber harvesting and road building. They were concerned that the DEIS did not address this issue, and they requested that the VQO's be mapped.

2. Cultural Resource: What type of management will be provided for archeological and historical resources, especially the historic Lolo Trail corridor?

All but one comment about cultural resources were concerned about the protection of the resource. Many questioned the intention of the Clearwater to manage other resources in proximity to the Lolo Trail system. The Bonneville Power Administration expressed concern that protection of the corridor was too restrictive and that it could conflict with a potential energy corridor.

3. Special Areas: What additional areas will be identified as Research Natural Areas or special or unique?

Of respondents commenting about special areas, most expressed concern about the limited size of the proposed Aquarius Research Natural Area. They thought that the proposed size of the area would fail to protect the unique features of the area. Twelve other areas were suggested for potential special interest sites.

4. Wilderness and Roadless: Which lands should be considered for wilderness classification and which should be designated to unroaded management?

This issue received more comments than all other comments combined except timber. It was sharply divided between those favoring more wilderness or unroaded designations, and those favoring less. One segment of the respondents felt threatened by the "locking up" of more land in wilderness or unroaded designations while another segment felt just as threatened by "developing" the land. Those who want to develop the land think of the land as benefitting them in their life-time; those who want the land preserved think of it as a heritage for future generations.

Many different areas were suggested for wilderness management or unroaded management. The most popular areas mentioned for their wilderness values were Mallard-Larkins and Hoodoo areas. Other areas such as Toboggan, Cayuse, Fish, Hungery, and Weitas Creeks were mentioned for unroaded or wilderness status to protect the fish and wildlife.

5. Wild and Scenic Rivers: Which streams should be considered as candidates for Wild and Scenic River status?

Several respondents pointed out that the Clearwater had not complied with the regulations to review and identify potential candidates to the Wild and Scenic River designation.

6 and 7. Wildlife: How will the Forest manage wildlife habitat on winter range? How will key summer range be managed after timber is harvested?

Most comments about winter range questioned the Forest's ability to accomplish ten times more acres of burning on winter range each year than the Clearwater had in the past. The respondents also questioned rather the Forest would have the budget to accomplish such a high standard.

While many people acknowledged the importance of properly managed winter range for elk, there appeared to be more concern with summer range management, especially in connection with road closures. Although most respondents thought more roads in summer range should be closed, there were others who objected to road closures because they thought it would limit their opportunity to enjoy the Forest. Some respondents mentioned that roads were not detrimental to big game, because they had seen many big game on roadways.



8, 9, 10, and 11. Timber Production: To what extent can the Forest meet the demand for a continued supply of timber to support local community stability? How will the Forest evaluate unsuitable and suitable timberlands? How will the Forest decide which silvicultural system to use? Should timber sale receipts cover the cost of harvesting timber?

These issues received more comments than any other issue. The timber industry contended that more timber was needed from National Forest lands, because timber supply on industrial, private land in Idaho is dwindling. Local community leaders were extremely concerned that local jobs and local economies would be adversely impacted by a shortage of timber.

Following the scheduled comment period, a series of meetings and correspondence with local industry and community leaders prompted the Forest Service to prepare A Report on Idaho's Timber Supply. This report, as well as follow up information, both internal and external, prompted additional comments from local industry and community leaders. They cited studies that showed timber supplies available to supply local mill capacity would be short 52 MMBF/10 years from all sources in the area; therefore, the Clearwater should increase its harvest level to make up for this deficit.

The proponents of increasing the harvest level also expressed their need for areas to hunt and fish and "recreate." In fact, some respondents said most of the recreationists and other users on the Forest were those involved directly or indirectly in the timber industry. If jobs were lost as a result of reduced timber supplies, then overall use in the Forest would decrease as well.

From the other point of view, respondents said that the existing timber supply was adequate and even if it wasn't, the Clearwater should not accept the responsibility of trying to make up the difference. Proponents of this opinion were concerned that increasing timber harvest would have adverse impacts on other resources and would require roading of currently undeveloped land. Many respondents mentioned that much of the timber was, and would continue to be, an uneconomical species; they said that the Forest was subsidizing the timber industry and losing money for the government.

When considering suitable timberland, respondents thought that more of the Clearwater should be considered unsuitable for timber to meet the land management planning regulations because of the five year reforestation requirements, potential water and soil problems, and economics considerations. Other respondents were concerned that only 54 percent of the Forest was considered suitable for timber management in the Proposed Plan. Some respondents said that a map of unsuitable lands was needed to comply with NFMA.

Respondents also expressed concerns over the large amount of clearcutting prescribed and its affects on other resources. They said that the Forest should have analyzed an alternative that included only uneven-aged management. Respondents also suggested that trees are not being planted at a rate which keeps up with harvest levels. Many expressed concern about vast areas which remain unplanted, and voiced doubts about sustaining strong timber harvest levels in the future. Another topic mentioned repeatedly was the waste of "harvestable" timber."

12. Water and Fish: What standards should be followed to ensure high water quality and fish habitat?

One segment of the public thought the Clearwater's proposed water standards were much higher than necessary to meet State standards and were a significant constraint on timber harvesting. From the other point of view, respondents were concerned that proposed water quality standards were not strict enough to alleviate possible irreversible damage to soil, water, fisheries, and riparian resources. Both sides were skeptical about the ability of the Forest's models to adequately predict natural responses. The Indian Tribes emphasized that water quality and anadromous fisheries are the most important resources provided by the Forest and must be improved to meet treaty obligations. There were also concerns that potential funding and monitoring would be inadequate to protect water quality and fisheries.

13. Riparian Areas: How will the Forest manage timber in riparian areas?

Concern was expressed that the riparian zones in the Forest would only be harvested under even-aged methods. They were concerned that clearcutting did not meet the objectives of the riparian zone values, that it would destroy or reduce wildlife, fish habitat and water quality.

One reviewer stated that all lands identified on the landtype maps as streambreak lands should be placed in the unsuitable category because they were too sensitive to manage safely.

14. Road Construction: How will the Forest evaluate road construction, design standards, and projected road costs? How will the Forest manage roads?

A segment of respondents recognized that roads are necessary for resource development but questioned the design standards and costs associated with road building. Another segment of the public contended that roads cause destruction to soil, water, fisheries, wildlife, and scenic values, and new construction should be reduced or eliminated.

15. Energy Transmission Corridor: How will the Forest comply with the Bonneville Power Administration's request to consider an energy transmission corridor window across the Clearwater Forest?

Bonneville Power Administration expressed concern that protection of the Lolo Trail corridor was too restrictive and that it could conflict with a potential energy transmission corridor.

#### E. CHANGES BETWEEN THE DRAFT AND FINAL ENVIRONMENTAL IMPACT STATEMENTS

The changes in the EIS and Forest Plan are the result of the combined input from all comments including in-service reviews. Categories of change include:

- modification of the Proposed Action to form a new Preferred Alternative,
- improvement of analyses and displays,
- factual and editorial corrections,
- clarifications, and
- revised management standards and projected outputs.

A new alternative, K, was developed between the Draft and Final documents. This alternative is a modification of the Proposed Action, Alternative E. Alternative K is now the Preferred Alternative. The results of the changes made in response to public comment can be seen by comparing Alternative E and K. This new alternative is analyzed, discussed, and displayed throughout the Environmental Impact Statement, especially in Chapter II, IV and Appendices B and C. It is reflected also in the Forest Plan.

In response to input from proponents and users of Research Natural Areas, the Forest has increased the size of the proposed Aquarius RNA from 900 to 3900 acres and added the 330 acre Four-Bit area.

Information concerning potential Wild and Scenic River candidates in the Clearwater has been added to the Final Plan and EIS.

The elk winter range habitat improvement program was reduced and changed to respond to public input and concerns of the Idaho Fish and Game and Forest Service. The draft proposed program was too large and costly to accomplish based on the Forest's past performance. Summer burning also has been emphasized instead of spring burning to accomplish browse improvement, because it will be easier to find the proper conditions to burn to achieve the desired results.

The Forest Plan modifies the management direction for important elk summer range by developing a new Management Area, C8S. In this 208,000 acre Management Area all new roads will be closed to public use.

The allowable sale quantity (ASQ) has increased from 160 MMBF to 173 MMBF to respond to strong public concerns of adequate timber supply and local community stability. Noninterchangeable volume is now reflected in the ASQ of all alternatives in the first decade.

To respond to public comments, areas recommended for wilderness and those areas left undeveloped have increased. The suitable land base was maintained at nearly the same level, because some less economically efficient lands were included which weren't included in the initial analysis.

Water quality standards and guidelines remained essentially the same, except some resident fishery standards in a few specific streams were lowered in the developed portion of the Forest.

In response to many public comments which expressed doubt about harvesting 17 MMBF in riparian areas and still achieving stated goals and objectives, the projected annual timber output decreased in riparian areas.

To further protect the soil and water resources, standards have been added that require special analysis for identified problem soils. The new standards identify soils which are prone to mass wasting or regeneration problems and which require specific analysis to be conducted to determine if the area should be roaded or logged.

Projected road construction will increase from 62 to 69 miles a year to support the increases in allowable timber sale quantity. This increase contradicts a significant amount of public input which recommended less road building because of high cost, developing previously unroaded areas, and potential adverse impacts to other resources. Anticipated road costs have been reduced, because road design standards have been reduced in many areas, especially in the C8S Management Area.

At the request of Bonneville Power Administration and in accordance with Federal law and regulations, Forest personnel have identified a possible energy corridor window across the Forest.

The economic impact analysis has been strengthened in Chapter II of this EIS. In this revised section, the economic impact and effects on the local economy are discussed. A profile of the six-county area by employment sector, and jobs and income generated from resource outputs are displayed. A discussion of the effects of each alternative is also provided by the number of jobs attributable to Clearwater National Forest.

The economic impact section in Appendix B was also expanded with an employment summary by individual sector and a discussion on the economic impact of outfitters and guide operations.

The Forest Plan strengthens Forestwide direction to promote the use of integrated pest management (IPM) techniques and methods throughout the proposed Forest management program.

In response to public input, the rate of timber price increases over time was reduced which results in lower timber price assumptions. All costs of management have been reviewed, and many were changed to better reflect current conditions.

#### F. READER'S GUIDE

The remainder of the EIS is organized as follows:

Chapter II describes the alternatives by showing the resource outputs, costs, benefits, and major effects of meeting the objectives of each alternative. The environmental, economic, and social effects of alternatives are briefly compared.

Chapter III provides a brief discussion of the existing condition of physical, biological, social, and economical components of the environment that may be affected by Forest management.

Chapter IV identifies the environmental consequences which could result from Forest management activities scheduled in each alternative.

Chapter V lists the people directly involved with preparation of the environmental impact statement and Forest Plan documents.

Chapter VI summarizes the public comments to the draft documents and displays comments received from government agencies, elected officials, and Indian Tribes and the Clearwater's response to those comments. Also listed are the names of individuals and groups who commented on the draft documents. Also, included is a list of those receiving these current documents.

Chapter VII is a bibliography.

Chapter VIII provides a glossary of definitions of technical terms and abbreviations and is followed by an index.

The appendices (in a separate document) provide detailed subject information: Appendix A discusses issue identification; Appendix B describes the analysis process; and Appendix C describes the roadless areas.

Appendix D is an unbound document of the original letters received from the public about the draft documents. Included with each letter is the Clearwater's reply to their comments. It is available for review at the Forest Supervisor's Office in Orofino. Respondents may request copies of their original letter plus the Forest Service reply.



## **Chapter II**

# **Alternatives**

## II. ALTERNATIVES

### A. INTRODUCTION

This chapter presents the development, description, analysis, and effects of alternative ways of managing land and resources of the Clearwater National Forest. The alternative development process is summarized; alternatives are described; and effects are compared. The alternative proposed for further development as the Forest Plan is identified.

A map is provided of the Preferred Alternative which displays the location of land designations. Maps of all other alternatives were part of the Draft Environmental Impact Statement (DEIS); they have not been reprinted but are available for inspection.

The role of the Forest Plan is to guide all natural resource management activities for the Clearwater for the next 10 to 15 years, with the Plan focusing on the first decade. The Forest Plan will be revised every 10 to 15 years or earlier if conditions or demands change significantly. This Environmental Impact Statement shows effects projected over the planning horizon because of the long-term nature of natural resource management. Values shown for decade one are planned outputs and expected effects for each alternative. Values for decade two through fifteen are projections and are only for the purpose of showing effects.

The alternatives reflect different management objectives by varying combination of land designations, levels of resource outputs, expenditure levels, and assignments and schedules of management activities.

All of the alternatives covered in this document are feasible and comply with the minimum requirements of applicable laws and regulations, including prevention of significant or permanent impairment of the productivity of the land.

This chapter contains the following sections:

- A. Introduction
- B. Alternative Development
- C. Description of Alternatives
- D. Comparison of Alternatives

### B. ALTERNATIVE DEVELOPMENT

#### 1. Overview

Forest planning began by identifying public issues and management concerns. (See Appendix A for a description of this process.) Once the issues were known, information was needed to determine the Forest's capability to respond to each issue. This step was the analysis of the management situation. Resource data, economic information, and environmental/legal constraints were examined.

Benchmarks were developed and analyzed to measure resource and economic interrelationships and output ranges for alternative development.

Alternatives were developed which respond to issues, present net value (PNV), and net public benefits (NPB). NPB are an expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. NPB are measured by both quantitative and qualitative criteria rather than a single measure or index. An understanding of the various types of values and interrelationships associated with Forest outputs aids decisionmakers in the selection of an alternative that maximizes net public benefits. (See Appendix B for a further discussion of NPB.)

The alternative development process that was used is outlined in 36 CFR 219.12. These regulations include the following goals for alternative formulation:

- Provide a basis for identifying the alternative that maximizes net public benefits.
- Give directions that alternatives shall be distributed between the minimum and maximum resource potential and reflect a range of environmental resource uses and expenditure levels.
- Give directions that alternatives be formulated to facilitate analysis of reduction in PNV and trade-offs, and that alternatives shall be formulated to evaluate effects on present net value, benefits, and costs.
- Provide different ways to respond to major public issues.

Several portions of this chapter have been extensively revised and expanded to address public comments and internal concerns from the DEIS.

Changes between the draft documents and this Environmental Impact Statement (EIS) are:

- Alternative K which is the Preferred Alternative has been added. This alternative was developed as a result of public comments on the DEIS.
- Anadromous fish have been disaggregated into steelhead trout and chinook salmon to respond to public comments.
- The discussion on timber in comparison of alternatives has been updated and revised to include results of the Report on Idaho's Timber Supply.
- The timber section has also been updated to include a discussion on silvicultural systems and results of analysis on utilization standards.
- The discussion on community effects in comparison of alternatives section has been expanded to include a discussion on effects of the local economy.
- A section on timber resource land suitability has been added at the end of this chapter.
- Noninterchangeable component to allowable sale quantity (ASQ) has been added to all alternatives in decade one.
- Analysis of economic effect of outfitter and guide industry has been added.



-Narratives have been reviewed and revised where needed.

-Changes have been made to numbers in tables and text where errors or inconsistencies existed.

For a more extensive list of changes made as a result of public comments on the DEIS, see Chapter VI of this EIS.

## 2. Analysis of the Management Situation

The analysis of the management situation determined resource supply potentials by establishing minimum and maximum production levels called benchmarks. Six (6) benchmark levels were developed to define resource supply potentials and economic relationships of the Forest. Production capabilities were determined for a minimum level, for single resources, and for a set of multiple resource outputs that maximize present net value (NFMA regulation 219.12e). A level was also established from which the costs and effects of applying regulation and policy constraints were measured. The computer model FORPLAN was used to help determine the resource supply potentials.

The benchmark levels and analyses are summarized in this chapter. Appendix B, Section VI, provides a detailed discussion of the benchmark levels.

### a. Constraints Used to Develop Benchmarks

Regulation and policy constraints applied to benchmarks have, in most cases, reduced the maximum potential resource supply. NFMA regulation 219.27 specifies that certain minimum management requirements be included in the planning process. The methods to meet these minimum management requirements include developing standards and guidelines and appropriate practices for prescriptions; assigning prescriptions and intensities to analysis areas in FORPLAN; and applying specific constraints in FORPLAN. A complete description of the minimum management requirements can be found in Appendix B, Section VI. Constraints commonly applied to the benchmark levels (except for the Minimum Level Benchmark) are:

- All benchmarks comply with minimum management requirements.
- An ending timber inventory constraint was used so that the timber inventory in 150 years would equal or exceed the volume that occur on a regulated Forest.
- Timber harvest is precluded on 259,165 acres of existing wilderness, 23,606 acres of recreation river corridor, 1,281 acres of Lochsa Research Natural Area (RNA), and 224,148 acres of nonforest, noncommercial, and physically unsuitable lands.
- Minimum timber rotation ages were set at the age where 95 percent of the culmination of mean annual increment (CMAI) timber volume occurs. (This assures that timber is not harvested while still growing at its maximum rate.)
- The Minimum Level Benchmark was constrained to produce no management induced outputs, such as timber harvest and livestock grazing, to determine the basic cost of Federal ownership.

## **b. Benchmark Descriptions**

### **(1) Maximize Present Net Value (Benchmark PS2)**

This benchmark established the mix of resource uses and schedule of outputs and costs that maximizes present net value using market and nonmarket assigned values. Minimum management requirements were met, and the timber harvest flow was nondeclining. The resource outputs, scheduling, benefits, and costs were used as reference points for all alternative comparisons. It was used to develop Alternative B, a variation of the high market emphasis alternative. This benchmark is displayed in this EIS when a comparison of alternatives is made to provide a reference to the potential maximum present net value.

### **(2) Maximize Timber (Benchmark TIM)**

The maximum legal capability of the Forest to produce timber was determined by this benchmark. Timber production is maximized in decade one based on nondeclining flow and meeting minimum management requirements. This benchmark was used to develop and test the range of timber outputs. It was not carried forward as an alternative, because it does not adequately provide for multiple use. It also is not responsive to the Forest's issues and concerns.

### **(3) Maximize Potential Elk Habitat (Benchmark EL2)**

The purpose of this benchmark is to analyze the potential for elk based on the availability of forage on winter and summer ranges. It established the potential maximum for elk, and it was used as the basis for defining elk summer and elk winter range objectives by alternatives.

### **(4) Maximum Wilderness (Benchmark WL2)**

Wilderness was maximized to explore the foregone monetary values and resource outputs by comparison with the maximum present net value benchmark. This benchmark was used to develop a wide range of wilderness recommendations from no new wilderness to designating all inventoried roadless area to wilderness.

### **(5) Minimum Level (Benchmark MN1)**

The Minimum Level Benchmark displays the minimum outputs associated with custodial management of the Forest and the unavoidable costs and benefits of public ownership. It served as a minimum reference point to develop and/or to test alternative outputs and costs which result from management activities. This benchmark is displayed to provide a comparison to the alternatives.

### **(6) Current Direction (Benchmark AA6)**

Benchmark AA6 displays the current level of goods and services, and the most likely amount of goods and services expected in the future if current management direction continued. This benchmark follows existing unit plan management direction with no budget constraints. It was carried forward as the current program or "current direction" alternative (Alternative A).

Twelve other benchmarks were developed that were variations of the above. These benchmark levels examined impacts and costs of the various constraints or objectives. They are described in detail in Appendix B, Section VI.

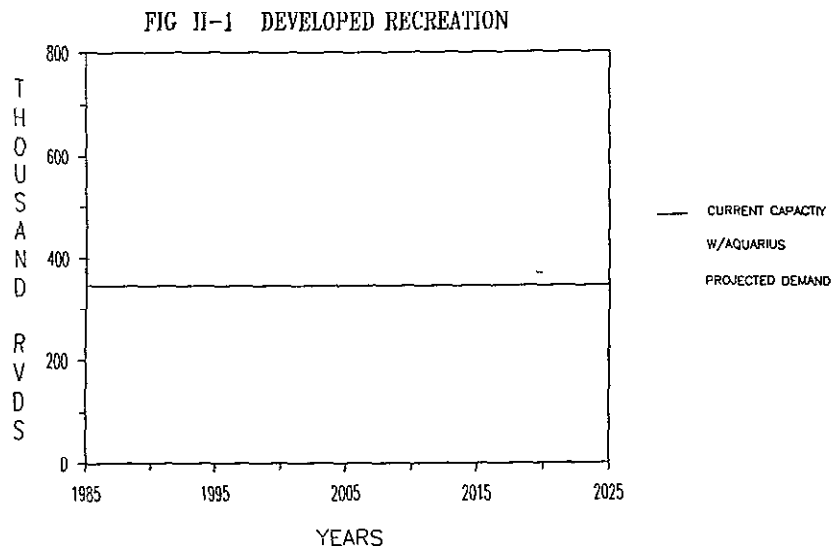
### c. Benchmark Analysis

Analysis of the benchmarks established upper and lower potential levels for selected resources. Additional analysis was done to estimate projected use levels. The following resources were analyzed.

#### (1) Developed Recreation

Developed campgrounds and picnic facilities provide capacity (supply) for about 345,000 recreation visitor days (RVD's ) annually. Demand for this type of recreation as indicated by use was 166,200 visitor days in 1980. Some additional capacity will be needed in the Aquarius area on the North Fork District to meet demand until the year 2005. This development will increase capacity to about 369,000 visitor days. The Forest could meet developed recreational demand after the year 2005 through the development of potential sites currently inventoried.

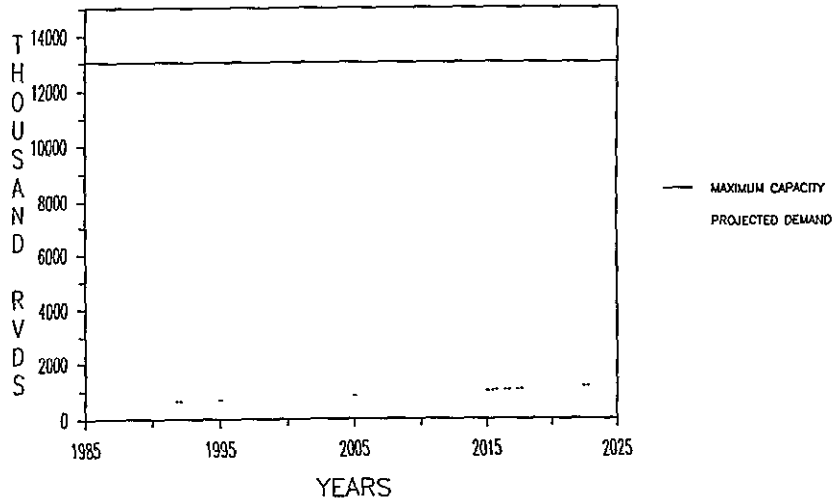
Figure II-1 shows the current capacity, the capacity including development of Aquarius, and the projected demand.



## (2) Roaded Natural Recreation

Dispersed recreation in a roaded setting includes hunting, fishing, firewood cutting, berry picking, camping at unimproved sites or just driving through the Forest. Estimated use in 1980 was about 522,700 RVD's. Potential capacity for this type of recreation exceeds projected demand in all 15 decades. Figure II-2 illustrates the maximum capacity and projected demand of roaded natural recreation.

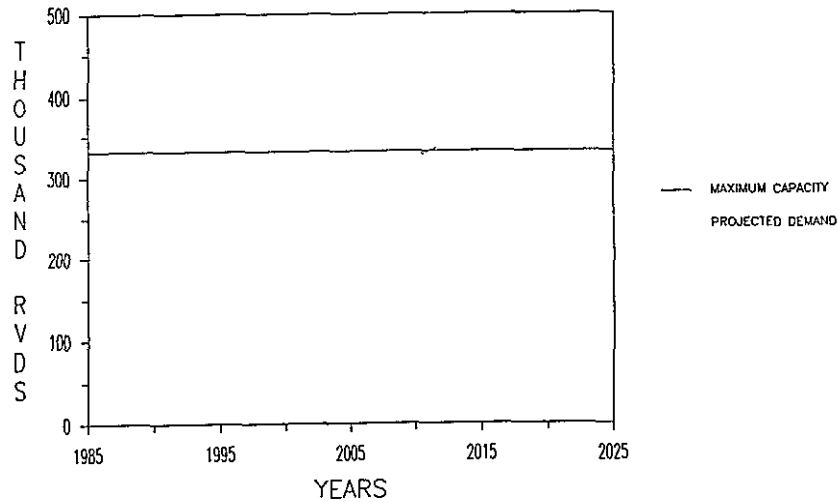
FIG. II-2. ROADED NATURAL RECREATION



## (3) Semiprimitive Recreation

Dispersed recreation in nonwilderness, semiprimitive setting resulted in about 188,300 RVD's in 1980. The Forest has 950,311 acres of inventoried roadless areas which includes approximately 558,000 acres that currently provide opportunities for semiprimitive recreation. The total capacity of these areas is 332,000 RVD's/year which should be reached about the year 2010. Figure II-3 shows the maximum capacity and projected demand for semiprimitive recreation.

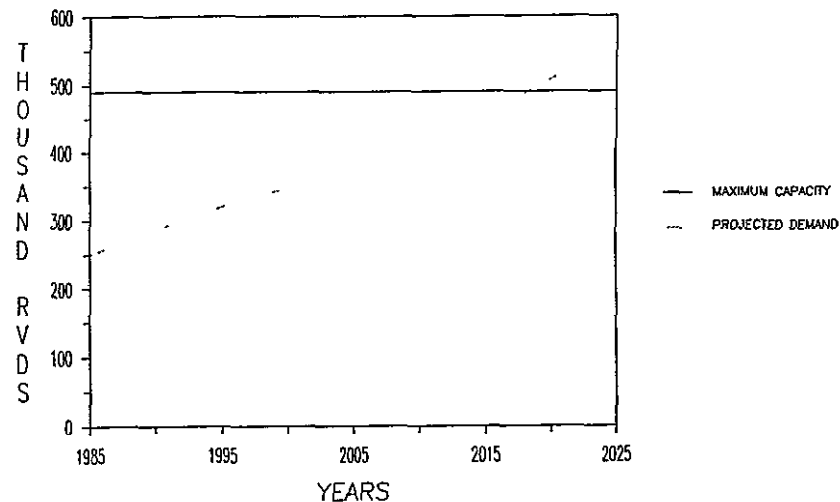
FIG. II-3 SEMIPRIMITIVE RECREATION



#### (4) Wilderness

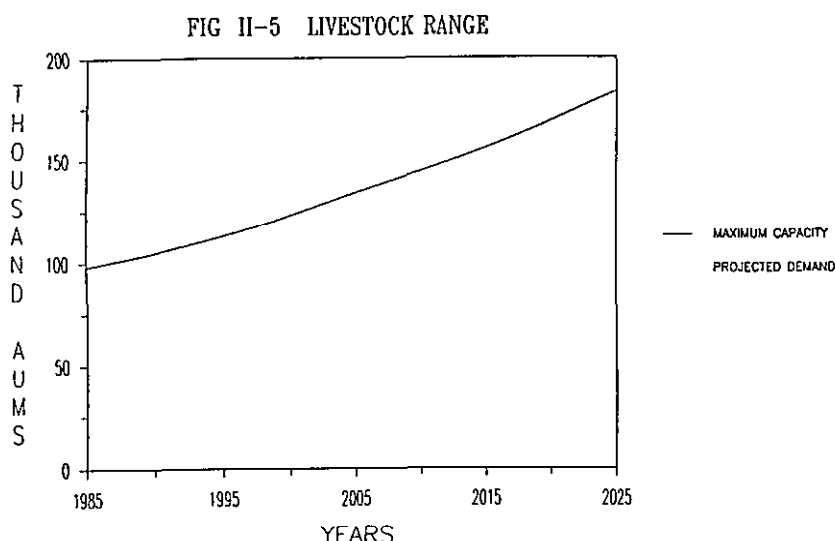
Use of the wilderness in 1980 was about 46,700 RVD's in the existing 259,165 acre Selway-Bitterroot Wilderness. The 950,311 acres of inventoried roadless areas also have potential to provide a wilderness experience if they are designated as such. The total capacity for the existing Selway-Bitterroot Wilderness and inventoried roadless areas is 490,000 RVD's/year which is projected to be reached by about the year 2020. Figure II-4 shows the maximum capacity and projected demand for wilderness recreation.

FIG. II-4. WILDERNESS RECREATION



## (5) Livestock Forage

Current grazing is about 16,000 animal unit months (AUM's). All of the grazing allotments are not fully utilized at present. Range conditions and recent economic conditions have forced permittees to discontinue use on some of the Forest's more remote and short-season allotments. The Forest has been able to find substitute areas more accessible to base operations for some of these permittees. It is expected that this trend will continue with the demand for livestock forage on the more accessible portions of the Forest remaining high, while back-country forage will be designated to other uses. In all but the Minimum Level Benchmark, the potential exists to increase forage production by taking advantage of transitory forage created through timber harvest. Figure II-5 illustrates the maximum capacity and projected demand for livestock forage.



## (6) Wildlife

### (a) Elk

Because elk is the primary big-game indicator species, opportunities for change are directed to that species. The Forest had an elk population of about 13,500 animals in 1980. The Idaho Fish and Game has a goal of 19,900 elk by 1990 for the Clearwater Forest.

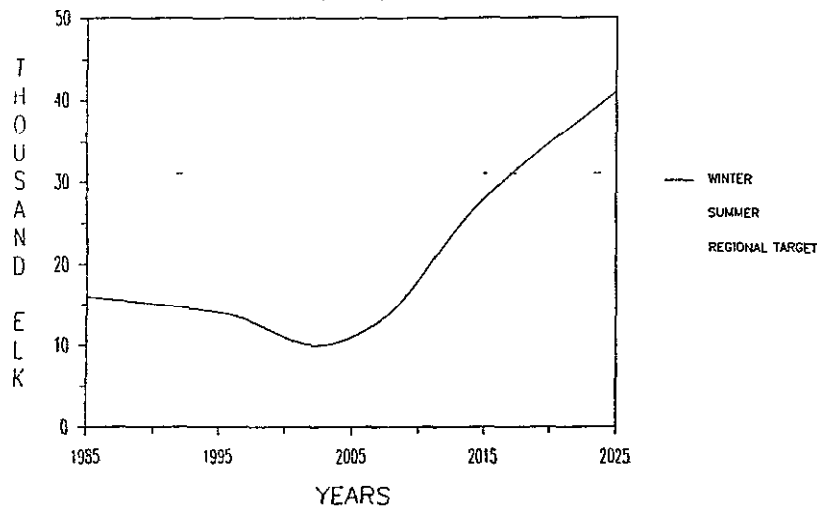
The average potential for elk on winter range is 22,836 elk annually. The potential average on summer range is 31,000 elk. Thus winter range is generally the limiting factor on elk production. However, in later periods, summer range may become limiting if more of the roadless areas are accessed for timber production.

Over the next 15 decades, cutting timber on the winter range will produce more potential elk forage than burning. Burning will produce, on a per acre basis, more elk forage in the decade of burning than timber harvesting does in the decade of harvest. However, in decades two and three after timber harvest, elk

forage is at its peak and is three times greater, on harvested areas than on burned areas. The number of potential elk on winter range averaged 22,836 annually for 15 decades. However, in decades one to three the elk potential only averaged 13,460 elk. (See Figure II-6.) As a result, another FORPLAN run was made to maximize winter potential in decades one to five only. (See Figure II-7.) This run resulted in a slight decrease in the average potential winter range for 15 decades (i.e., 22,020 elk) but in decades one to three the average potential increased to 30,612 elk. This would be accomplished by burning more winter range (i.e., 42,000 acres vs 16,770 acres) and scheduling more timber harvest in the early decades

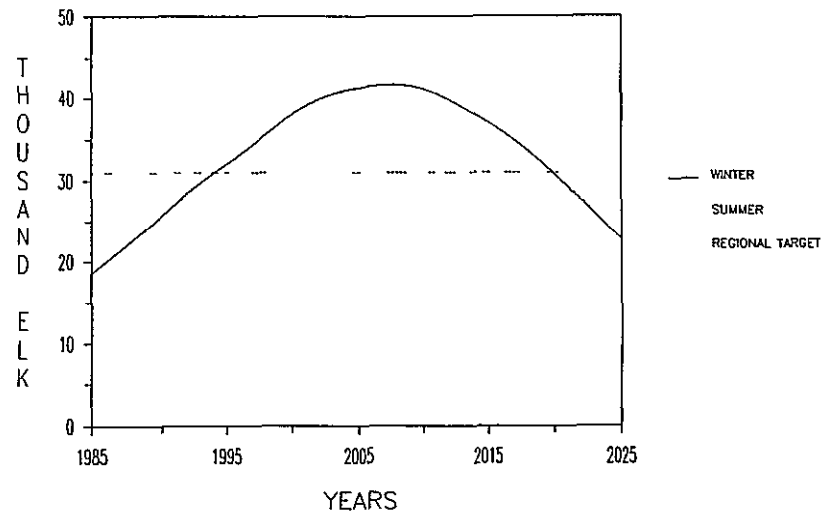
Very little timber harvest is occurring on the roadless summer range to achieve the 31,000 potential elk. This is based on the philosophy of the less disturbance the elk receive the more elk the Forest will be able to produce.

FIG. II-6 MAXIMUM ELK WINTER RANGE  
FOR 15 DECADES



Considering these factors, the Forest can achieve the State of Idaho's 19,900 elk goal by 1990. To accomplish this objective, burning will need to take place on the winter range, and some of the roadless summer areas will need to remain unroaded. If this goal is to be maintained or increased past 1990, timber management will need to occur on the winter range, and additional summer areas will need to be maintained as roadless.

FIG. II-7. MAXIMUM ELK WINTER RANGE  
FOR 5 DECADES



(b) Old-Growth Dependent Species

The benchmark analysis indicated that old-growth stands exist in quantities sufficient to maintain viable populations of old-growth dependent wildlife species in each decade of the planning horizon.

(c) Threatened and Endangered

The gray wolf is listed as an endangered species in the Clearwater Forest. The Forest does contain occupied habitat although to what extent is unknown.

Originally all benchmarks managed habitat to support a recovered population of ten wolves. However under more intensive evaluation it was found that certain nontimber prescriptions (M5 and M6) do not consistently provide gray wolf habitat. (See Appendix B, Section VI.) The Clearwater is recognized as having habitat with a very high potential for recovery of the gray wolf because of the large roadless areas available. Security or solitude, another major component of wolf habitat requirements, may not be available to fully meet the recovery objective in some high development alternatives without incurring additional costs.

Although the Clearwater National Forest has historically had grizzly bears, there have been no confirmed bear sightings in many years. However, the Selway-Bitterroot ecosystem is currently designated as a potential recovery area if studies indicate adequate grizzly bear habitat is available.

The bald eagle is also an endangered species in the Forest. Although they have been observed along the larger streams, to date no nests have been located.

Although the Forest has candidates for additional T & E species, no known presence of other threatened or endangered wildlife or plant species exists.

The benchmark analysis did not reveal any situation which would require additional constraints to maintain viable populations of other wildlife species.



## (7) Fisheries

The Forest contains anadromous steelhead trout and spring chinook salmon and a resident fishery with the westslope cutthroat trout being the most important. The biological potential for wild fish production is estimated at 717,500 anadromous smolts and 598,400 resident fish. The Forest has about 71<sup>4</sup> miles of stream habitat available for anadromous fish production with an additional 4,30<sup>4</sup> miles available for resident fish. (See planning records: Background Paper Fisheries Resources Analysis of the Management Situation, Clearwater National Forest.)

The potential fish habitat productivity is affected by the amount of sediment produced by each benchmark. The benchmark analysis was designed to show the effect of a sediment constraint that maintained soil productivity and watershed balance. It was not intended to consider the beneficial uses of the water. Additional sediment constraints were necessary to meet potential fishery habitat objectives when formulating alternatives.

The demand for anadromous fish production is a complex interaction of Federal, State, local, and Indian Tribal interests which includes recreational and cultural experiences (fishing), ecological preservation, and commercial products. Use projections show that resident sport fishing will increase 18 percent during the next decade and 51 percent during the next 50 years (Pacific Northwest River Basin Commission, 1975). An opportunity exists to increase anadromous fish populations.

Figure II-8 illustrates the maximum and minimum populations of resident fisheries in the Clearwater drainages. Figure II-9 shows the same information for anadromous fisheries.

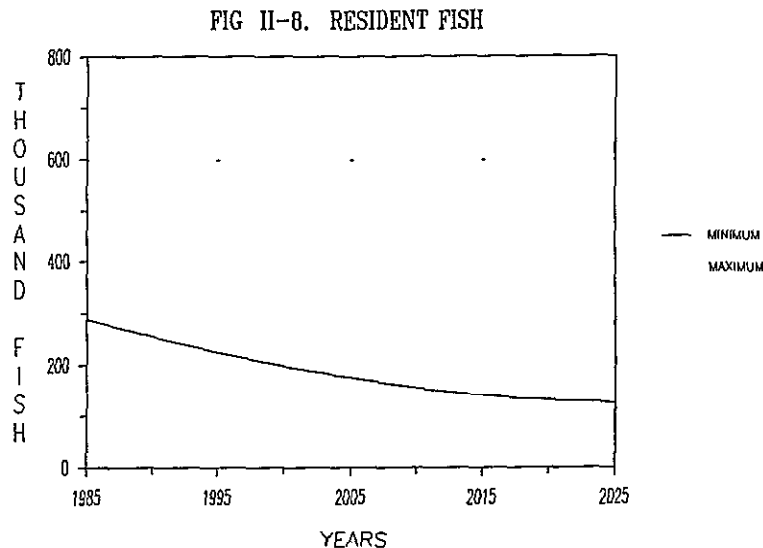
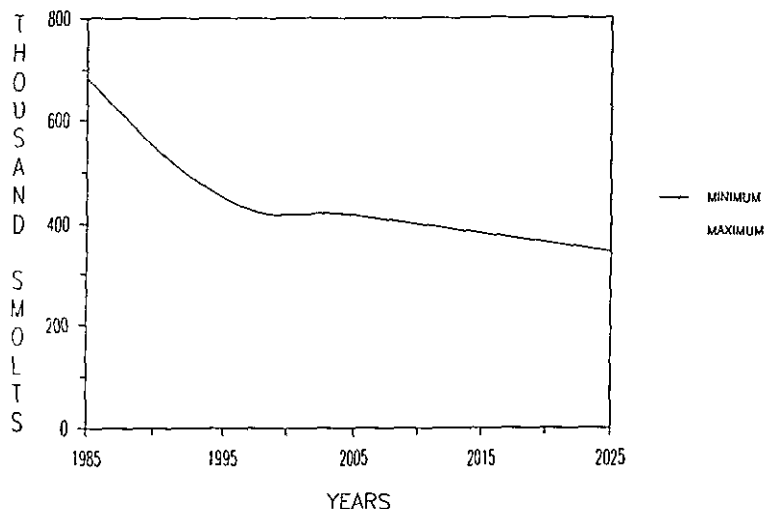


FIG II-9. ANADROMOUS SMOLTS

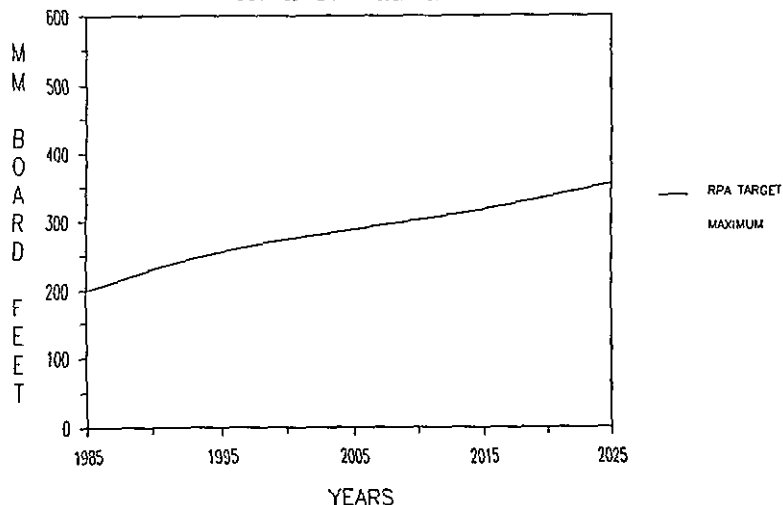


### (8) Timber

The Maximum Timber Benchmark has a base harvest schedule of 326 MMBF annually in the first decade. This rises to 549 MMBF in the fifth decade and to 640 MMBF in the tenth decade. The long-term sustained yield is 596 MMBF. This amount of timber production is well above existing and projected high Resource Planning Act (RPA) levels of 200 MMBF/yr in the first decade to 355 MMBF/yr in the fifth decade. (See Figure II-10.) Currently, the annual average timber harvest is 170 MMBF. The present sawmill capacity in the local area is 478 MMBF. Mills outside of the local area have not purchased any significant amount of timber from the Forest.

Figure II-10 illustrates the maximum and RPA target levels for timber production.

FIG II-10 TIMBER



Opportunities exist to shift timber harvest from areas currently roaded to lands that have been unroaded or require harvest systems not previously available. This would have the effect of distributing potential impacts from timber harvest and road construction over a greater area.

Tentatively suitable timberland is 1,336,074 acres (See Appendix B Section II). Lands suitable for timber production range from no acres in the Minimum Level Benchmark to a maximum of 1,285,283 acres in the Maximum Timber Benchmark.

#### (9) Present Net Value

The Maximum Present Net Value Benchmark, PS2, indicates that an improvement in PNV is possible over the current direction (approximately 21 percent).

#### (10) Social

The Clearwater has an opportunity to increase potential employment opportunities through increased resource outputs. Unemployment within the Forest impact areas has been above the State wide average for the 5-year period from 1975-1980. The Clearwater Forest directly and indirectly was responsible for providing approximately 3,038 private-sector jobs in 1980. The Maximum PNV Benchmark has the potential to increase employment by 1990. Since unemployment estimates remain high within the impact area, any additional jobs would be looked at favorably.

#### (11) Minerals

The potential exists to increase minerals-related activity by providing greater access and by promoting orderly exploration and development. Current mineral cases are approximately 265 per year. This number is expected to increase because of higher gold and silver prices, increased access and exploration, and more efficient mining equipment.

Increased road building in the present unroaded areas will increase access for exploration, but is not likely to result in a rash of discoveries and development as most areas of high minerals potential appear to coincide with areas already roaded.

As the remote areas of the Forest are accessed and opened to modern methods of mineral exploration, it is possible that new areas of high potential will be discovered despite the fact that much of the Forest was prospected over at least once.

### 3. Range of Alternatives

#### a. Information Used to Develop Alternatives

The benchmarks presented in the previous section were used to develop alternatives that represent a range of resource outputs. For example, the Maximum Timber and Minimum Level Benchmarks show that the timber base sale levels range from a minimum of zero to 326 MMBF per year in the first decade. Alternatives were then designed to span the benchmark range while meeting policy constraints such as riparian protection and minimum harvest levels of anadromous

fish. The Maximum PNV Benchmark was used to determine differing effects of emphasizing various outputs and provided a basis for changing alternative activities to optimize PNV while still meeting the objectives. The Current Direction Benchmark was used to develop the current direction alternative.

The benchmark analysis also aided in addressing the broad range of public issues and management concerns. The issues and concerns centered around a stable timber supply, adequate habitat for fish and game, roadless areas, and the miles of road needed to implement the Plan. (See Appendix A, Section IV.)

The alternatives range from emphasizing resources that are priced and have market outputs to emphasizing nonpriced, nonmarket outputs. Considerable effort was given to developing feasible solutions that have a variety of mixes, as well as, considering roadless area designation to wilderness, unroaded or other resource management. Each roadless area was designated to wilderness in at least one alternative. One alternative designated all of the roadless area to wilderness and evaluated the opportunity for increasing commodity outputs in roaded lands. One alternative was designed to meet RPA targets identified in the Regional Guide.

#### b. Adequate Range of Alternatives

An adequate range of alternatives was developed by first formulating alternatives that were required by regulations or policy. This included one alternative that reflected the current program (Alternative A), one that recommended wilderness classification for all roadless lands (Alternative I), one that responded to the 1980 RPA program (Alternative C), one that recommended wilderness classification for a substantial portion of the roadless area while maximizing commodity production on the remainder of the Forest (Alternative G), one that emphasized market commodities (Alternative B), and one that emphasized nonmarket resources like water, fish, wildlife and recreation (Alternative F).

These alternatives were then examined to determine where they fit in the range of outputs expressed by the benchmarks, and how well they responded to the issues and roadless evaluation principles. Two alternatives were considered in detail and then eliminated.

Four additional alternatives (Alt. D, E, J, and K, the Preferred Alternative) were developed that respond in varying degrees to the major issues. These alternatives varied by the amount and location of wilderness recommended and by lands which will remain unroaded to meet semiprimitive recreation, watershed protection, and elk security needs. The total outputs and effects from these four alternatives are similar. A departure from nondeclining timber harvest was analyzed for Alternative E, the DEIS Proposed Action, and became Alternative E1.

The range of new wilderness proposals extends from zero acres in Alternative B to 950,311 acres in Alternative I. This encompasses the maximum possible range. The ten other alternatives fall within this range with six being grouped between about 140,000 and 285,000 acres. The array of wilderness recommendations include proposals made by the timber industry, the State of Idaho, a coalition of environmental groups, local elected officials, and the Idaho Multiple Use Bill #5.2457 introduced in the U.S. Senate and House of

Representatives in 1984. The range includes an alternative for those recommending no additional wilderness and for those that desire all wilderness.

As a minimum, all of the alternatives maintain the existing Selway-Bitterroot acreage at its present 259,165 acres, the Middle Fork-Lochsa Recreation River Corridor at 23,606 acres, and the Lochsa Research Natural Area at 1,281 acres. None of the alternatives propose eliminating the use of timber management on lands that have been previously developed for that use. Therefore the variation between alternatives is made up largely by how the 950,311 acres of roadless lands are designated and the intensity of management on those lands and the roaded lands.

Most alternatives contain not only a wilderness recommendation but propose other roadless areas to remain unroaded without a wilderness classification. Areas recommended for wilderness in one alternative may be proposed for a non-wilderness but unroaded use in another alternative with the effect on other outputs being essentially the same. Because of this, it is necessary to not only look at the range of wilderness proposals but the wilderness and unroaded proposals combined as shown in Figure II-11.

The range of resource outputs correspond generally to the land designations. For example, the upper end of the timber output range and lower end of the semiprimitive recreation RVD's range is contained in the alternative that shows the greatest amount of suitable timberland and least amount of wilderness and unroaded area, Alternative B.

A total of twelve alternatives were formulated and tested against the benchmark capacities to determine if a wide range had been provided to respond to major issues. The comparison is shown in Figure II-11 and Section D of this chapter.

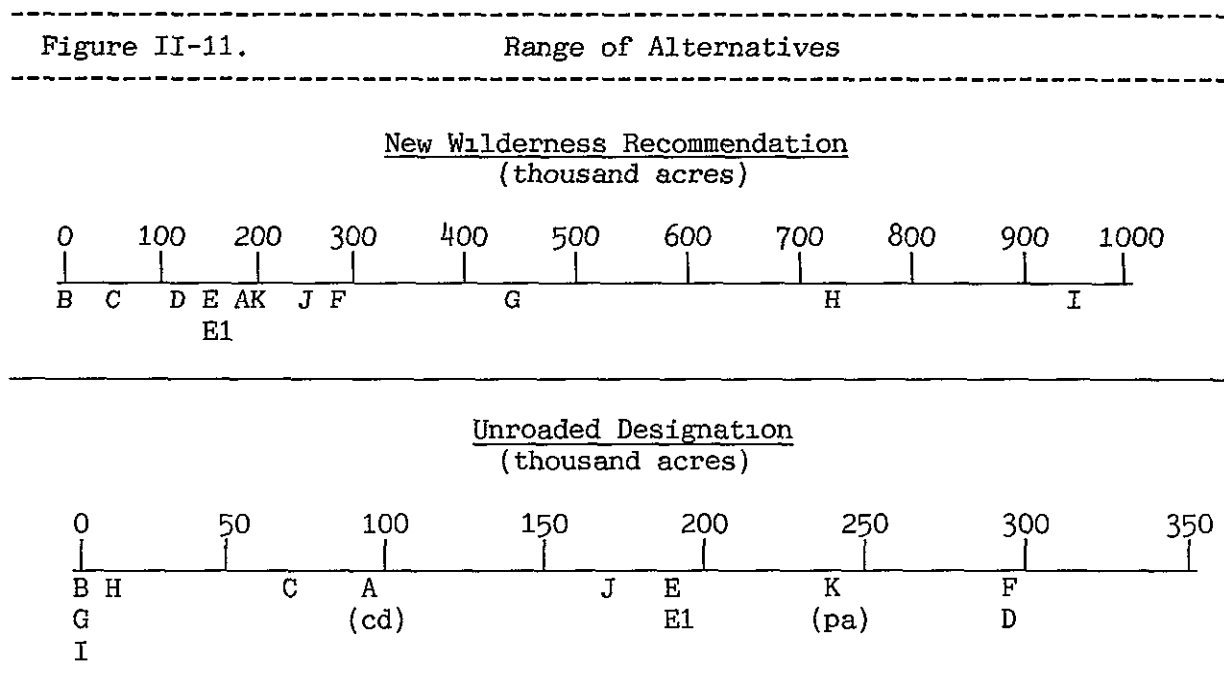
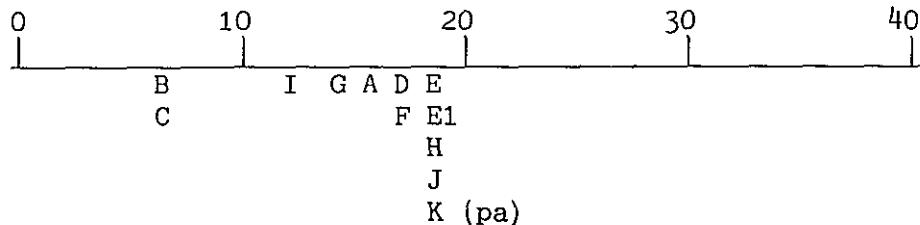


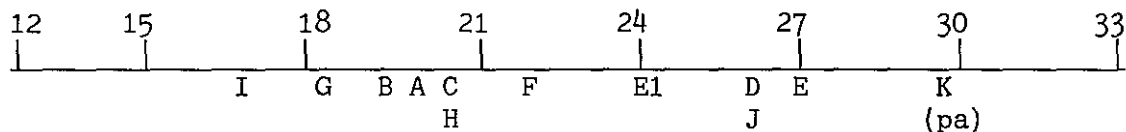
Figure II-11 cont.

Range of Alternatives

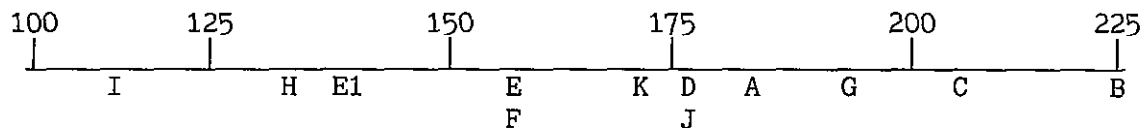
Retention and Partial Retention  
Visual Quality Objectives  
(percent suitable timberland)



Elk Habitat Potential  
(thousands of elk in decade 3)



Timber Volume  
(million board feet in decade 1)



c. Constraints Used to Develop Alternatives

Constraints common to all alternatives are:

- (1) provided basic resource considerations to meet the minimum management requirements;
- (2) held the first decade harvest volume to the current harvest levels for the current direction alternative only (Alternative A);
- (3) maintained a sequential upper bounds of no more than 20 percent (30 percent in the Preferred Alternative K) from decade to decade for timber harvest;
- (4) provided for 95 percent culmination of mean annual increment prior to timber harvest;
- (5) assured that harvestable timber is available beyond the 150 year planning horizon;
- (6) provided for nondeclining yield;
- (7) excluded lands not suitable for timber harvest from receiving a timber prescription;

- (8) allowed only the wilderness prescription to be applied to the existing Selway-Bitterroot Wilderness; the recreation river prescription to be applied only to the Lochsa-Middle Fork of the Clearwater Wild and Scenic River Corridor; and appropriate prescriptions applied to the recreational areas, administrative sites, and other special areas;
- (9) assured a sediment level that would maintain or enhance fish populations from streams in the Forest; and
- (10) provided a rate of access for developing unroaded areas.

Constraints specific to alternatives are discussed in Appendix B, Section VII. The constraints used to meet alternative objectives are: sediment output constraints to meet potential fish habitat objectives; potential elk summer range and winter range production objectives; and land designations appropriate to meet the objectives of each alternative.

Water quality/fishery standards are determined for each alternative. They are defined for both anadromous and resident fish on the basis of biological potential. The following defines the lower limit of biological potential for each standard:

<u>Standard</u>	<u>Percent Biological Potential</u>	
	<u>Anadromous</u>	<u>Resident</u>
No Effect	100	100
High Fishable	80	80
Moderate Fishable	70	70
Low Fishable	53	64
Min Viable	34	52

These standards are applied as sediment constraints by alternative in FORPLAN. (See Appendix B, Section III, for additional information.)

### C. DESCRIPTION OF ALTERNATIVES

#### 1. Changes between DEIS and FEIS

-Preferred Alternative K has been added in the description of alternatives section. This alternative was developed as a result of public comment on the DEIS.

-As a result of public comments, anadromous fish discussions include both steelhead trout and chinook salmon.

-Narratives have been reviewed and revised as needed.

-Changes have been made to numbers and text where errors were found or inconsistencies existed.

#### 2. Alternatives Eliminated from Detailed Study

The Potlatch Corporation and Wilderness Society each submitted an alternative between the draft and final EIS. After preliminary evaluation, including

several FORPLAN runs, it was decided not to display them as additional alternatives, because their outputs and effects were within the range of outputs displayed in the existing alternatives. A closer look at each of these alternatives and reasons for not displaying them follows.

a. Key Features of the Potlatch Alternative

(1) Potlatch Corporation's alternative provided a timber harvest of a minimum of 160-170 MMBF per year for the next five years, then increased to 195 MMBF the last five years of first decade. This translates to an average of 183 MMBF per year for the first decade. In the second decade, the timber harvest increased to 225 MMBF.

Explanation: Preferred Alternative K provides a timber harvest close to the suggested levels with an annual average harvest of 173 MMBF in the first decade and 212 MMBF in the second decade.

(2) Potlatch Corporation also suggested that the Clearwater should not designate any unroaded management or recommend any wilderness. They suggested that the Forest separate the controversial roadless areas from the Forest Plan process by placing approximately 375,000 acres in a deferred status until Congress settles the classified wilderness issue. This would require placing these lands in an unsuitable category for the first decade, then making an assumption that the wilderness issue would be settled, and putting the remaining lands back into the suitable land base.

Explanation: NFMA requires each National Forest to develop land management direction for every acre on the Forest. By taking certain roadless lands out of the timber base and designating them as unsuitable on the basis of public controversy is sidestepping the purpose of NFMA. The Act does provide for identification of unsuitable land for various reasons, but does not provide for arbitrarily putting lands back into the suitable category on the basis of public concerns.

If and when Congress does pass a wilderness bill that includes land on the Clearwater Forest, the Forest Plan as written provides that recommended lands not chosen for wilderness will automatically be managed for unroaded recreation until the Plan is revised.

(3) Potlatch Corporation's Alternative did not constrain FORPLAN runs by watersheds for the Palouse District, or for two areas in the North Fork District - Orogrande Drainage and Beaver Block.

Explanation: NFMA requires certain minimum management requirements for all alternatives (36 CFR 219.27). This is especially true of water quality. Although we did lower water quality standards on several of the areas, each area still has a minimum standard to protect the basic watershed from irretrievable damage, and still provide a necessary minimum fishery resource.

(4) Potlatch Corporation did not provide any provision for retaining old-growth timber in their alternative.



Explanation: NFMA requires that diversity be addressed in the Forest planning process (36 CFR 219.26) and (36 CFR 219.27[g]). Old-growth timber is a part of this diversity not only for vegetative diversity but also for wildlife diversity.

(5) Their proposal did not restrict harvest within riparian areas.

Explanation: The treatment of riparian areas for other than just timber management is well documented in NFMA minimum management requirements (36 CFR 219.27[e]) and in (36 CFR 219.23).

#### **b. Key Features of the Wilderness Society Alternative**

(1) The Wilderness Society recommended 496,000 acres for wilderness in these areas:

- Mallard-Larkins - 120,000 acres
- Upper North Fork - Meadow Creek - 36,000 acres
- Hoodoo - 204,000 acres
- Moose Mountain - 18,000 acres
- Elk Summit - 58,000 acres
- Fish and Hungery Creeks - 60,000 acres

Explanation: Although the exact recommended wilderness acres by area are not addressed in any one alternative, they are included in the range of alternatives, especially G, H, and I. Since there is an almost unlimited combination of wilderness recommendations possible, the intent of the Wilderness Society's recommendations is adequately displayed and analyzed in the other alternatives.

(2) They also suggested that the Forest take all breaklands out of suitable land base.

Explanation: Many of the breaklands are steep (55 percent plus slopes) with sensitive soils which makes it difficult to access or harvest timber. However, many of the lands are highly productive, and to arbitrarily exclude them from timber production is not acceptable. Many of the very sensitive soil types and land forms within these breaklands have been excluded. Others will be managed through the use of aerial systems requiring few roads while others may be safely logged from roads along the edges of these lands. The water quality standards in the Forest Plan provide the safety net for properly managing these sensitive lands.

Preliminary results of FORPLAN runs on the Wilderness Society Alternative indicate a total volume in decade one of 110 MMBF per year and a long-term sustained yield (LTSY) of 264 MMBF. Of the 110 MMBF per year in decade one, 78 MMBF per year was from already roaded areas with the remaining 32 from roadless areas. The suitable land base was 562 thousand acres.

### **3. Alternatives Considered in Detail**

The twelve alternatives considered in detail are described in this section. Each alternative has a schedule of resource outputs and economic data projected for 15 decades in Table II-24 starting on page II-148.

### Alternative A (Current Direction)

Alternative A continues current management direction as provided by the existing approved Multiple Use Plan, Part I, and the approved unit plans (Lowell, White Pine and Elk River). This alternative constitutes the "current direction" alternative as required by the planning regulations CFR 219.12 (f) (7) which states, "...at least one alternative shall reflect the current level of goods and services expected to be provided in the future if current management direction continues." The current budget level is approximated in this alternative. This alternative is not designed to respond to newly identified issues, concerns, or opportunities.

#### a. Wilderness and Roadless Areas

Wilderness recreation increases from the existing Selway-Bitterroot Wilderness of 259,165 acres to four areas recommended for wilderness in RARE II (Mallard-Larkins, 67,910 acres; Moose Mountain, 18,373 acres; Hoodoo, 100,100 acres; and Lakes Addition, 3,971 acres totaling 190,354 acres). Roadless areas that continue to be managed as unroaded include the Elizabeth Lakes area, 9,800 acres; the Lochsa Face, 36,326 acres; and the Fish Creek area, 46,600 acres. Timber harvest in the Elk Summit area would be deferred in the first decade.

#### b. Recreation

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 190,354 acres to the system. Although wilderness capacity increases with the addition, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### c. Elk

Potential habitat is available on both summer and winter range to increase populations from the 1980 population estimate of 13,500 animals to 19,800 in the third decade. This increase will necessitate increased timber harvest in winter range to stimulate browse production. Beyond the fifth decade, habitat in summer range becomes limiting as the potential habitat is reduced due to new roads. As a result, animals decrease to 12,400 elk by decade 15. Adequate hiding areas adjacent to on-going timber harvest activities will be difficult to maintain. This reduction is lessened by road closures after timber harvest.

About 4182 acres annually of prescribed burning on elk winter range is scheduled in the first decade.

#### d. Water Quality/Fishery

The water quality/fishery objective for Alternative A is moderate fishable across most of the Forest. This objective declines to low fishable in the roaded portion of the Pierce District and to minimum viable in the Palouse District. "No effect" is the objective in wilderness or roadless areas.

These objectives result in a maximum population of 233,600 steelhead smolts, 367,300 chinook smolts, and 522,400 resident fish. This steadily declines after the first decade to a low of 205,500 steelhead; 340,200 chinook; and 509,700 resident fish.

#### e. Threatened and Endangered Species

No action will be taken that would adversely affect any threatened and endangered species. Essential habitat for the gray wolf is provided by the Selway-Bitterroot Wilderness, the 190,354 acres of recommended wilderness, the 92,726 acres recommended for unroaded, the 41,800 acres for wildlife habitat improvement, and the 68,800 acres recommended to timber prescriptions on winter range. This habitat will maintain an estimated population of ten wolves.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for new road construction. The 190,354 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Seven percent of the Forest lands open to mineral entry would remain in a roadless status.

#### h. Timber

The suitable timberland base for Alternative A is 1,041,000 acres. This land-base represents 78 percent of the 1,336,074 acres which were determined to be tentatively suitable for producing wood products. Timber harvest levels increase steadily from the current level of 181 MMBF/year to 348 MMBF/year by the fifth decade. The average acres cut per year for the first decade is 7,100 acres of regeneration harvests. There is no intermediate cutting in this alternative until the sixth decade. In the first decade, timber harvest continues to come from areas where harvest has occurred in the past, and then in the following decades, harvest shifts to areas previously undeveloped.

#### i. Road System

About 5,670 miles of new road construction are needed to complete the system. The main roads (arterial and collector) will be constructed by decade four. Most road construction (including major local roads) will be completed by the 13 decade. Some of the suitable timberlands have young timber and are not scheduled for harvest in the early decades.

Capital investment in road construction is needed where low value species and/or high construction costs preclude full payment for the road system from the initial timber harvest. Capital investment road funding needs rapidly decline after the fourth decade.

#### j. Socioeconomic

The first decade, yearly, average budget expenditure of \$16,180,000 produces outputs and activities that provide \$15,686,000 in receipts to the U.S. Treasury and 3,383 private-sector jobs. The present net value (PNV) for the entire 150 year planning horizon is \$1,093,800,000 discounted at 4 percent.

#### k. Research Natural Areas

The 1,281 acre Lochsa Research Natural Area (RNA) is maintained in this alternative.

### Alternative B

Alternative B is designed to produce the maximum amount of market outputs (timber and range forage) with a timber harvest schedule that does not decline from one decade to the next and does not exceed the long-term sustained yield capacity in any one decade. This alternative responds to the maximum feasible timber and range forage issues as well as the maximum road development, minerals, and roaded recreation.

#### a. Wilderness and Roadless Areas

Opportunities for wilderness recreation includes only the existing Selway-Bitterroot Wilderness of 259,165 acres. No additional areas are recommended for wilderness. Capacity for wilderness recreation remains as present.

#### b. Recreation

Opportunities for dispersed recreation change in later years from a mix of roaded natural and primitive experiences to more roaded natural. Although opportunities for primitive, nonwilderness recreation diminish with time as roadless areas are developed, portions of the 371,000 acres not economically or physically suited for development remain unchanged. These areas provide settings for semiprimitive recreation.

No new campground construction is planned. Existing campgrounds receive minimum maintenance.

#### c. Elk

Potential habitat is available in both summer and winter range to increase populations to 19,300 animals in the third decade. Potential elk population on winter range increases to about 34,500 animals in the early decades because of an accelerated timber harvest and prescribed burning in the winter range, followed by additional browse production. In the second decade and beyond, summer range becomes limiting due to the increased amount of roads and timber harvest openings that affect hiding cover (security) areas for elk. As a result animals decrease to 10,200 elk by decade 15.

Prescribed burning is scheduled on 2,732 acres per year to improve elk winter range.

#### d. Water Quality/Fishery

The water quality/fishery objective for Alternative B is low fishable across most of the Forest. This objective declines to minimum viable in the Palouse District. "No effect" is the objective in the existing wilderness. These objectives result in a maximum population of 250,100 steelhead smolts, 373,800 chinook smolts and 501,800 resident fish which steadily declines after the first decade to a low of 137,000; 188,700; and 508,600 respectively.

#### e. Threatened and Endangered Species

The 259,165 acres of existing wilderness, the 27,300 acres of wildlife habitat improvement, and the 102,100 acres of timber prescriptions on winter range provide essential habitat for the gray wolf. This habitat will maintain an estimated population of six wolves.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for new road construction. No additional lands would be withdrawn for wilderness and no Forest lands would remain in a roadless status.

#### h. Timber

The suitable timberland for Alternative B is 1,154,000 acres or 87 percent of the tentatively suitable timberland. The timber harvest level increases sharply from the first decade harvest of 225 MMBF/yr to a LTSY of 543 MMBF/yr. The average acres cut per year for the first decade is 9,100 acres of regeneration harvests. Timber is harvested with mixture of clearcutting and shelterwood. No intermediate cutting occurs until after the fifth decade. Some of the suitable timberlands are either not stocked or have young timber and are not scheduled for harvest in the early decades.

#### i. Road System

Approximately 6,310 miles of new road construction are needed to complete the transportation system for timber management. The main roads (arterial and collector) are constructed by decade four. Local road construction occurs throughout the first ten decades.

Capital investment in road construction is needed where low value species and/or higher construction costs preclude full payment for the road system from the initial timber harvest. Capital investment road funding needs decline rapidly after the fourth decade with the completion of most arterial and collector systems.

#### j. Socioeconomics

The first decade, yearly, average budget expenditure of \$17,690,000 produces outputs and activities that provide \$18,598,000 in receipts to the U.S. Treasury and 3,923 private-sector jobs. The present net value (PNV) for the entire 150 year planning horizon is \$1,231,500,000 discounted at 4 percent.

#### k. Research Natural Areas

The existing 1,281 acre Lochsa Research Natural Area is maintained in this alternative.

### Alternative C

Alternative C produces high levels of market outputs (timber and range forage) and makes available extensive acreage for mineral exploration and development. This alternative provides for moderate fishery and elk habitat conditions and limited nonwilderness recreation. The new wilderness recommended in this alternative corresponds to that proposed by the timber industry in Idaho. This alternative responds to the 1980 RPA program.

#### a. Wilderness and Roadless Areas

Capacity for wilderness recreation increases slightly from the present with the addition of 45,471 acres of new wilderness recommended in the Hoodoo (Great Burn), Mallard-Larkins, and Lakes Addition areas. Areas that remain unroaded but not recommended for wilderness are portions of the Elk Summit, Lochsa Face, Coolwater Ridge, Elizabeth Lakes, and Moose Mountain areas totaling 70,685 acres.

#### b. Recreation

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned. Existing campgrounds receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 45,471 acres to the system. Although wilderness capacity increases, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### c. Elk

Potential habitat is available on both summer and winter range to increase populations to 20,600 animals in the third decade. Potential elk population on winter range increases sharply to about 34,300 animals in the early decades due to accelerated timber harvest and prescribed burning in the winter range, followed by additional browse production. In the second decade and beyond summer range generally becomes limiting due to the increased amount of roads and timber harvest openings that affect hiding cover for elk. As a result, elk decline to less than 11,600 elk by decade 15.

Prescribed burning is scheduled on 3,188 acres per year to improve elk winter range.

#### d. Water Quality/Fishery

The water quality/fishery objective for Alternative C is moderate fishable across most of the Forest. This objective declines to low fishable in the roaded portion of the Pierce District and min viable in the Palouse District.

These objectives result in a maximum population of 250,100 steelhead smolts, 367,300 chinook smolts, and 522,400 resident fish which steadily declines after the first decade to a low of 222,100; 340,200; and 489,900 respectively.

#### e. Threatened and Endangered Species

The 259,165 acres of existing wilderness, the 45,471 acres of recommended wilderness, the 70,685 acres recommended for unroaded, the 31,900 acres of wildlife habitat improvement, and the 109,300 acres of Management Areas C4, C2S, and C6S provide essential habitat for the gray wolf. This habitat will maintain an estimated population of eight wolves.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. The 45,471 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Five percent of Forest lands open to mineral entry would remain in a roadless status.

#### h. Timber

The suitable timberland for Alternative C is 1,134,300 acres or 85 percent of the tentatively suitable timberland. The timber harvest level increases sharply from the first decade harvest of 213 MMBF/yr to a long-term sustained yield (LTSY) of 533 MMBF/yr. The average acres cut per year for the first decade is 8,600 acres of regeneration harvests. Timber is harvested with mixture of clearcutting, shelterwood or selection. No intermediate cutting occurs until after the fifth decade.

#### i. Road System

About 6,050 miles of new road construction are needed to complete the transportation system for timber management. The main roads (arterial and collectors) are constructed by decade four. Local road construction occurs throughout the first ten decades. Some of the suitable timberlands are either not stocked or have young timber and are not scheduled for harvest in the early decades.

Capital investment in road construction is needed where low value species and/or higher construction costs preclude full payment for the road system from the initial timber harvest. Capital investment road funding needs decline rapidly after the fourth decade with the completion of most arterial and collector systems.

#### j. Socioeconomics

The first decade, yearly, average budget expenditure of \$17,133,000 produces outputs and activities that provide \$17,506,000 in receipts to the U.S. Treasury and 3,770 private-sector jobs. The present net value (PNV) for the entire 150 year planning horizon is \$1,239,100,000 discounted at 4 percent.

#### k. Research Natural Areas

In addition to the existing Lochsa Research Natural Area, 3,886 acres located in eight areas are recommended for establishment as research natural areas. One recommended area is within a recommended wilderness, and the proposed Aquarius Research Natural Area includes 235 acres.

### Alternative D

This alternative is designed to provide a mix of market and nonmarket outputs with the emphasis on market goods from lands suitable for that purpose. Nonmarket outputs are emphasized on lands less suitable for timber production. This alternative presents as a wilderness proposal those areas and acreages agreed to by the Idaho Congressional Delegation for the Idaho Wilderness Bill.

#### a. Wilderness and Roadless Areas

Capacity for wilderness recreation increases from the present with the addition of 130,430 acres of new wilderness recommended in the Hoodoo and Mallard-Larkins areas. Areas that remain unroaded but not recommended for wilderness are portions of Mallard-Larkins, Elizabeth Lakes, Hoodoo, Moose Mountain, North Lochsa Slope, Lakes, Elk Summit, Lochsa Face, Coolwater, Fish Creek, and the Fourth of July totaling 293,237 acres.

#### b. Recreation

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 130,430 acres to the system. Although wilderness capacity increases with the addition, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### c. Elk

Potential habitat is available on both summer and winter range to increase populations to 26,400 animals by the third decade. The elk population goal on winter range is greater than or equal to 18,700 animals for all decades. This



goal is reached by increased timber harvesting and burning on winter range. The goal on summer range is greater than or equal to 21,250 elk for all decades. This goal is primarily accomplished by designating 119,900 acres of key summer range to wildlife/timber prescriptions (C2S, C6S), 61,600 acres of key summer range to a wildlife roadless prescription (C1), and designating areas to wilderness and roadless management. Winter range is generally the limiting factor in total elk populations for all decades.

Prescribed burning is scheduled on 3,471 acres per year to improve elk winter range.

#### **d. Water Quality/Fishery**

The water quality/fishery objective for Alternative D is high fishable across most of the Forest. This objective declines to moderate fishable in Lolo Creek, low fishable in the roaded portion of the Pierce District and minimum viable in the Palouse District.

These objectives result in a maximum population of 256,800 steelhead smolts 386,300 chinook smolts, and 536,100 resident fish which steadily declines after the first decade to a low of 243,000; 361,700; and 535,400 respectively.

#### **e. Threatened and Endangered Species**

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, 130,430 acres of recommended wilderness, 293,237 acres of unroaded management, 34,700 acres of wildlife habitat improvement, and 198,800 acres of Management Areas C4, C2S, and C6S provide essential habitat for the gray wolf. This habitat will maintain an estimated population of 14 wolves.

#### **f. Range**

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### **g. Minerals**

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. The 130,430 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Twenty percent of Forest lands open to mineral entry would remain in a roadless status.

#### **h. Timber**

The suitable timberland for Alternative D is 941,000 acres or 70 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases sharply from the first decade harvest of 176 MMBF/yr to a LTSY of 429 MMBF/yr. The average acres cut per year for the first decade is 7,200 acres of regeneration harvests. Timber is harvested with mixture of clearcutting, shelterwood or selection. No intermediate cutting occurs until after the fifth decade.

#### i. Road System

Approximately 4,880 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. Alternative D requires 62 miles of new road per year for the first decade. Of this 62 miles, 11 miles are collector and arterial roads, and 51 miles are local roads.

#### j. Socioeconomics

In the first decade, yearly average budget expenditures of \$16,173,000 produces outputs and activities that provide \$15,400,000 in receipts to the U.S. Treasury and 3340 private-sector jobs. The present net value for the entire 150 year planning horizon is \$1,089,200,000 discounted at 4 percent.

#### k. Research Natural Area

In addition to the Lochsa Research Natural Area, 4651 acres located in eight areas are recommended for research natural areas. One area is in a recommended wilderness, and the proposed Aquarius Research Natural Area includes 900 acres.

### Alternative E

Alternative E provides a mix of market and nonmarket outputs with emphasis on timber production, fishery habitat, and potential elk production. This alternative is designed to address timber production, elk, special areas, water quality, minerals, fisheries quality, and roaded natural, primitive, and wilderness recreational issues. Alternative E was the DEIS's Proposed Action.

#### a. Wilderness and Roadless Areas

Capacity for wilderness recreation increases from the present with the addition of 188,871 acres of new wilderness recommended in the Mallard-Larkins, Hoodoo (Great Burn), Elk Summit, and the Lakes Addition to the Selway-Bitterroot. Areas that remain unroaded but not recommended for wilderness are portions of Little North Fork, Elizabeth Lakes, Moose Mountain, North Lochsa Slope, Coolwater, Fourth of July, Kelly Creek, Cayuse, and Fish Creek totaling 188,400 acres.

#### b. Recreation

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 188,871 acres to the system. Although wilderness capacity increases, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### c. Elk

Potential habitat is available on both summer and winter range to increase populations to 26,900 animals by the third decade. The elk population goal on winter range is greater than or equal to 18,700 animals for all decades. This goal is reached by increased timber harvesting and burning on winter range. The goal on summer range is greater than or equal to 21,250 elk for all decades. This goal is exceeded by designating 236,000 acres of key summer range to wildlife/timber prescriptions (C2S, C6S), 45,100 acres of key summer range to a unroaded wildlife prescription (C1), and designating areas to wilderness and unroaded management. Winter range is the limiting factor in total elk populations for all decades.

Prescribed burning is scheduled on 3,438 acres per year to improve elk winter range.

#### d. Water Quality/Fishery

The water quality/fishery objective for Alternative E is high fishable, including Lolo and Elk Creek, across most of the Forest. This objective declines to low fishable on the roaded portion of the Pierce District and minimum viable in the Palouse District. "No effect" is the objective for wilderness and roadless areas.

These objectives result in a maximum population of 250,000 steelhead smolts, 367,300 chinook smolts, and 536,100 resident fish which steadily declines after the first decade to a low of 249,000; 367,300; and 535,400 respectively.

#### e. Threatened and Endangered Species

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 188,871 acres of recommended wilderness, the 188,400 acres recommended for unroaded, the 34,400 acres of wildlife habitat improvement, and the 311,500 acres of Management Areas C4, C2S, and C6S provide essential habitat for the gray wolf. This habitat will maintain an estimated population of 15 wolves.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. The 188,871 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Fourteen percent of Forest lands open to mineral entry would remain in a roadless status.

#### **h. Timber**

The suitable timberland for Alternative E is 997,400 acres or 75 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases from the first decade harvest of 160 MMBF/yr to a LTSY of 443 MMBF/yr. The average acres cut per year for the first decade is 6,500 acres of regeneration harvests. Timber is harvested with mixture of clearcutting, shelterwood or selection. No intermediate cutting occurs until after the fifth decade.

#### **i. Road System**

Nearly 4,880 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. Alternative E requires 62 miles of new road per year for the first decade. Of this 62 miles, 13 miles are collector and arterial roads, and 49 miles are local roads.

#### **j. Socioeconomics**

In the first decade, yearly average budget expenditures of \$15,833,000 produces outputs and activities that provide \$14,165,000 in receipts to the U.S. Treasury and 3,132 private-sector jobs. The present net value for the entire 150 year planning horizon is \$1,053,700,000 discounted at 4 percent.

#### **k. Research Natural Area**

In addition to the Lochsa Research Natural Area, 4,651 acres located in eight areas are recommended for research natural areas. One area is in a recommended wilderness, and the proposed Aquarius Research Natural Area includes 900 acres.

#### **Alternative E1 (Departure)**

Alternative E1 provides a variation to the DEIS's Proposed Action, Alternative E, by allowing the flexibility to depart from the requirement of a nondeclining timber base sale schedule. This alternative allows the harvest level to vary up or down, between decades, providing the long-term sustained yield of Alternative E and Alternative E1 is equal at the end of the planning horizon. This alternative also focuses on the national management concern of the effect of nondeclining yield.

#### **a. Wilderness and Roadless Areas**

Capacity for wilderness recreation increases from the present with the addition of 188,871 acres of new wilderness recommended in the Mallard-Larkins, Hoodoo (Great Burn), Elk Summit, and the Lakes Addition to the Selway-Bitterroot.

Areas that remain unroaded but not recommended for wilderness are portions of Little North Fork, Elizabeth Lakes, Moose Mountain, North Lochsa Slope, Coolwater, Fourth of July, Kelly Creek, Cayuse, and Fish Creek totaling 188,400 acres.

#### b. Recreation

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases due to the addition of 188,871 acres to the system. Although wilderness capacity increases, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### c. Elk

Potential habitat is available on both summer and winter range to increase populations to 24,600 animals by the third decade. The elk population goal on winter range is greater than or equal to 18,700 animals for all decades. This goal is reached by increased timber harvesting and burning on winter range. The goal on summer range is greater than or equal to 21,250 elk for all decades. This goal is exceeded by designating 243,000 acres of key summer range to wildlife/timber prescriptions (C2S, C6S), 45,100 acres of key summer range to a roadless wildlife prescription (C1), and designating areas to wilderness and unroaded management. Winter range is generally the limiting factor in total elk populations for all decades.

Prescribed burning is scheduled on 3,335 acres per year to improve elk winter range.

#### d. Water Quality/Fishery

The water quality/fishery objective for Alternative E1 is high fishable, including Lolo and Elk Creek, across most of the Forest. This objective declines to low fishable in the roaded portion of the Pierce District and minimum viable in the Palouse District. "No effect" is the objective for wilderness and roadless areas.

These objectives result in a maximum population of 250,000 steelhead smolts, 367,300 chinook smolts, and 536,300 resident fish which steadily declines after the first decade to a low of 204,000 steelhead, 242,600 chinook, and 535,600 resident fisheries.

#### e. Threatened and Endangered Species

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 188,871 acres of recommended wilderness, the 188,400 acres proposed for unroaded, the 33,300 acres of wildlife habitat improvement, and the 319,700 acres of Management Areas C4, C2S, and C6S provide essential habitat for the gray wolf. This habitat will maintain an estimated population of 15 wolves.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. 188,871 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Fourteen percent of Forest lands open to mineral entry would remain in a unroaded status.

#### h. Timber

The suitable timberland for Alternative E1 is 1,008,200 acres or 75 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases from the first decade harvest of 146 MMBF/yr to a LTSY of 443 MMBF/yr. The average acres cut per year for the first decade is 6,300 acres of regeneration harvests. Timber is harvested with mixture of clearcutting, shelterwood or selection. No intermediate cutting occurs until after the third decade.

#### i. Road System

Nearly 5,240 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. Alternative E1 requires 61 miles of new road per year for the first decade. Of this 61 miles, 13 miles are collector and arterial roads, and 48 miles are local roads.

#### j. Socioeconomics

In the first decade, yearly average budget expenditures of \$16,922,000 produces outputs and activities that provide \$12,451,000 in receipts to the U.S. Treasury and 2,979 private-sector jobs. The present net value for the entire 150 year planning horizon is \$1,260,500,000 discounted at 4 percent.

#### k. Research Natural Area

In addition to the Lochsa Research Natural Area, 4,651 acres located in eight areas are recommended for research natural areas. One area is in a recommended wilderness. The proposed Aquarius Research Natural Area includes 900 acres.

### Alternative F

Alternative F emphasizes wilderness, potential elk production, and primitive recreation by recommending 297,248 acres of wilderness. The elk population increases to a minimum of 20,900 animals in the first decade. Market outputs from lands available for that use are at a moderate level. This alternative contains the wilderness proposed by the State of Idaho.

#### a. Wilderness and Roadless Areas

Capacity for wilderness recreation increases from the present with the addition of nearly 297,248 acres of new wilderness recommended in the Mallard-Larkins, Hoodoo (Great Burn), Moose Mountain, Cayuse, and the Lakes Addition to the Selway-Bitterroot. Areas that remain unroaded but not recommended for

wilderness are portions of Elizabeth Lakes, North Lochsa Slope, Elk Summit, Lochsa Face, Coolwater, Pot Mountain, Bighorn-Weitas, Fish Creek, Tamarack, and Colt Creek totaling 290,500 acres.

#### **b. Recreation**

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases due to the addition of 297,248 acres to the system. Although wilderness capacity increases, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### **c. Elk**

Alternative F meets the Regional goal of 19,900 elk by 1990. Potential habitat is available on both summer and winter range to increase populations to 22,100 animals by the third decade. The elk population goal on winter range is greater than or equal to 20,900 animals for all decades. This goal is reached by increased timber harvesting and burning on winter range. The goal on summer range is greater than or equal to 23,750 elk for all decades. This goal is achieved by primarily designating 88,200 acres of key summer range to wildlife/timber prescriptions (C2S, C6S), 142,700 acres of key summer range to a wildlife unroaded prescription (C1), and designating areas to wilderness and unroaded management. Winter range is generally the limiting factor in total elk populations for all decades.

Prescribed burning is scheduled on 5,388 acres per year to improve elk winter range.

#### **d. Water Quality/Fishery**

The water quality/fishery objective for Alternative F is high fishable, across most of the Forest. This objective declines to moderate fishable in Lolo Creek, low fishable in the roaded portion of the Pierce District and minimum viable in the Palouse District. "No effect" is the objective for wilderness and roadless areas.

These objectives result in a maximum population of 256,800 steelhead smolts, 386,300 chinook, and 536,400 resident fish which steadily declines after the first decade to a low of 242,200 steelhead, 342,100 chinook, and 533,900 resident fisheries.

#### **e. Threatened and Endangered Species**

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 297,248 acres of recommended wilderness, the 290,500 acres proposed for unroaded, the 53,900 acres of wildlife habitat improvement, and the 154,500 acres of Management Areas C4, C2S, and C6S provide essential habitat for the gray wolf. This habitat will maintain an estimated population of 16 wolves.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. The 297,248 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Twenty three percent of Forest lands open to mineral entry would remain in a unroaded status.

#### h. Timber

The suitable timberland for Alternative F is 793,100 acres or 59 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases sharply from the first decade harvest of 160 MMBF/yr to a LTSY of 361 MMBF/yr. The average acres cut per year for the first decade is 6,600 acres of regeneration harvests. Timber is harvested with mixture of clearcutting, shelterwood or selection. No intermediate cutting occurs until after the fifth decade.

#### i. Road System

Approximately 4,060 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. This alternative requires 55 miles of new road per year for the first decade. Of this 55 miles, 10 miles are collector and arterial roads, and 45 miles are local roads.

#### j. Socioeconomics

In the first decade, yearly average budget expenditures of \$14,710,000 produces outputs and activities that provide \$13,955,000 in receipts to the U.S. Treasury and 3,132 private-sector jobs. The present net value for the entire 150 year planning horizon is \$1,007,100,000 discounted at 4 percent.

#### k. Research Natural Area

In addition to the Lochsa Research Natural Area, 7,651 acres located in eight areas are recommended for research natural areas. Two areas are within recommended wilderness. The proposed Aquarius Research Natural Area totals 3,900 acres. This proposal represents the State of Idaho and Regional Research Natural Area Committee recommendations.

### Alternative G

Alternative G is designed to respond to the Chief's direction to provide one alternative that has a substantial wilderness proposal while emphasizing market



outputs from lands already developed for that purpose and on selected unroaded lands especially suited for timber production. Alternative G also depicts the Idaho Wilderness Coalition's proposal for wilderness.

#### **a. Wilderness and Roadless Areas**

Capacity for wilderness recreation increases from the present with the addition of 453,997 acres of new wilderness recommended in the Mallard-Larkins, Hoodoo (Great Burn), Elk Summit, Moose Mountain, Cayuse, Fish Creek, and the Lakes Addition to the Selway-Bitterroot. No areas are recommended for unroaded.

#### **b. Recreation**

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 453,997 acres to the system. Although wilderness capacity increases with the addition, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### **c. Elk**

Potential habitat is available on both summer and winter range to increase populations to 18,400 animals in the third decade. Potential elk population on winter range increases sharply to about 29,500 animals in the early decades because of accelerated timber harvest and prescribed burning in the winter range, followed by additional browse production. At the second decade and beyond summer range becomes limiting due to the increased amount of roads and timber harvest openings that affect hiding cover (security) areas for elk. As a result animals decrease to 12,400 elk by decade 15.

Prescribed burning is scheduled on 2,808 acres per year to improve elk winter range.

#### **d. Water Quality/Fishery**

The water quality/fishery objective for Alternative G is low fishable across most of the Forest. This objective declines to minimum viable in the Palouse District. "No effect" is the objective for wilderness.

These objectives result in a maximum population of 250,100 steelhead smolts, 367,300 chinook smolts, and 501,800 resident fish which steadily declines after the first decade to a low of 222,200; 340,700; and 468,700 respectively.

#### **e. Threatened and Endangered Species**

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 453,997 acres of recommended wilderness, the 28,000 acres of wildlife habitat improvement, and the 86,000 acres of Management Area C<sup>4</sup> provide essential habitat for the gray wolf. This habitat will maintain an estimated population of 13 wolves.

f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. The 453,997 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. No areas on the Forest would remain in a unroaded status.

h. Timber

The suitable timberland for Alternative G is 959,600 acres or 72 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases sharply from the first decade harvest of 191 MMBF/yr to a LTSY of 442 MMBF/yr. The average acres cut per year for the first decade is 7,900 acres of regeneration harvests. Timber is harvested with a mixture of clearcutting, shelterwood and selection. No intermediate cutting occurs until after the fifth decade.

i. Road System

Nearly 5,090 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. This alternative requires 61 miles of new road per year for the first decade. Of this 61 miles, 8 miles are collector and arterial roads, and 53 miles are local roads.

j. Socioeconomics

In the first decade, yearly average budget expenditures of \$16,519,000 produces outputs and activities that provide \$16,681,000 in receipts to the U.S. Treasury and 3,514 private-sector jobs. The present net value for the entire 150 year planning horizon is \$1,127,800,000 discounted at 4 percent.

k. Research Natural Area

In addition to the Lochsa Research Natural Area, 3986 acres located in eight areas are recommended for research natural areas. Three of the areas are in recommended wilderness, and the proposed Aquarius Research Natural Area is 235 acres.

Alternative H

Alternative H provides high levels of nonmarket goods from the undeveloped portion of the Forest by designating roadless areas to uses that restrict or prohibit road access. Market goods are produced from areas previously developed but at levels determined by the effect on other resource values.

#### a. Wilderness and Roadless Areas

Capacity for wilderness recreation increases from the present with the addition of nearly 715,523 acres of new wilderness recommended in the Mallard-Larkins, Hoodoo (Great Burn), Elk Summit, Pot Mountain, Moose Mountain, Bighorn-Weitas, North Lochsa Slope, Beaver Creek, Lochsa Face and the Lakes Addition to the Selway-Bitterroot. Areas that remain unroaded but not recommended for wilderness are portions of Weitas and Post Office Creek totaling 14,400 acres.

#### b. Recreation

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 715,523 acres to the system. Although wilderness capacity increases, projected use just changes from dispersed use in a roadless setting to dispersed use in a wilderness setting.

#### c. Elk

Potential habitat is available on both summer and winter range to increase populations to 20,800 animals by the third decade. The elk population goal on winter range is greater than or equal to 16,500 animals for all decades. This goal is reached by increased timber harvesting and burning on winter range. The goal on summer range is greater than or equal to 18,750 elk for all decades. This goal is primarily accomplished by designating 102,700 acres of key summer range to wildlife/timber prescriptions (C2S, C6S), 14,400 acres of key summer range to a wildlife roadless prescription (C1), and designating areas to wilderness and unroaded management. Winter range is generally the limiting factor in total elk populations for all decades.

Prescribed burning is scheduled on 1,424 acres per year to improve elk winter range.

#### d. Water Quality/Fishery

The water quality/fishery objective for Alternative H is high fishable across most of the Forest. This objective declines to moderate fishable in the roaded portion of the Pierce District and low fishable in the Palouse District. "No effect" is the objective for wilderness and roadless areas.

These objectives result in a maximum population of 240,400 steelhead smolts, 386,300 chinook smolts, and 536,600 resident fish which steadily declines after the first decade to a low of 227,500 steelhead, 361,700 chinook, and 534,100 resident fisheries.

#### e. Threatened and Endangered Species

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 715,523 acres of recommended wilderness, the 14,400 acres proposed for unroaded, the 14,200 acres of wildlife habitat improvement, and the 164,900 acres of Management Areas C4, C2S, and C6S provide

essential habitat for the gray wolf. This habitat will maintain an estimated population of 18 wolves in Alternative H.

**f. Range**

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

**g. Minerals**

Opportunities for mineral prospecting and exploration would be reduced due to a lower increase in accessibility. New aggregate sources would be developed as needed for road construction. The 715,523 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Two percent of Forest lands open to mineral entry would remain in an unroaded status.

**h. Timber**

The suitable timberland for Alternative H is 693,900 acres or 52 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases sharply from the first decade harvest of 139 MMBF/yr to a long-term sustained yield (LTSY) of 316 MMBF/yr. The average acres cut per year for the first decade is 5,700 acres of regeneration harvests. Timber is harvested with a mixture of clearcutting, shelterwood and selection. No intermediate cutting occurs until after the fifth decade.

**i. Road System**

Approximately 3,490 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. This alternative requires 43 miles of new road per year for the first decade. Of this 43 miles, 4 miles are collector and arterial roads, and 39 miles are local roads.

**j. Socioeconomics**

In the first decade, yearly average budget expenditures of \$14,399,000 produces outputs and activities that provide \$12,094,000 in receipts to the U.S. Treasury and 2,897 private-sector jobs. The present net value for the entire 150 year planning horizon is \$898,400,000 discounted at 4 percent.

**k. Research Natural Area**

In addition to the Lochsa Research Natural Area, 7,651 acres located in eight areas are recommended for research natural areas. Six areas are within recommended wilderness. The proposed Aquarius Research Natural Area includes 3,900 acres.

### Alternative I

This alternative is designed to follow the direction in the Chief's letter of May 31, 1983 which calls for one alternative that proposes all roadless areas for wilderness. It provides the maximum opportunities for wilderness recreation along with the other associated outputs. Alternative I continues market outputs at a moderate level from lands not designated to wilderness.

#### **a. Wilderness and Roadless Areas**

Capacity for wilderness recreation increases from the present with the addition of about 950,311 acres of new wilderness recommended.

#### **b. Recreation**

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 950,311 acres to the system. Although wilderness capacity increases, projected use just changes from dispersed use in roadless setting to dispersed use in wilderness setting.

#### **c. Elk**

Potential habitat is available on both summer and winter range to increase populations to 16,700 animals by the third decade. The elk population goal on winter range is greater than or equal to 13,750 animals for all decades. This goal is reached by increased timber harvesting and burning on winter range. The goal on summer range is greater than or equal to 15,675 elk for all decades. This goal is exceeded in all decades by designating all roadless areas to wilderness management. Winter range is generally the limiting factor in total elk populations for all decades.

Prescribed burning is scheduled on 218 acres per year to improve elk winter range.

#### **d. Water Quality/Fishery**

The water quality/fishery objective for Alternative I is high fishable across most of the Forest. This objective declines to moderate fishable in the roaded portion of the Pierce District and low fishable in the Palouse District. "No effect" is the objective for wilderness.

These objectives result in a maximum population of 257,000 steelhead smolts, 386,300 chinook smolts, and 536,600 resident fish which steadily declines after the first decade to a low of 243,400; 360,800; and 534,800 respectively.

#### **e. Threatened and Endangered Species**

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 950,311 acres of recommended wilderness, the 2,200 acres of wildlife habitat improvement, and the 54,700 acres of Management

Area C<sup>4</sup> provide essential habitat for the gray wolf. This habitat will maintain an estimated population of 20 wolves in Alternative I.

**f. Range**

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

**g. Minerals**

This alternative would be the most restrictive to minerals prospecting and exploration. New Forest aggregate sources would be developed as needed for road construction. The 950,311 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. No Forest lands would remain in a roadless status.

**h. Timber**

The suitable timberland for Alternative I is 547,500 acres or 41 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases sharply from the first decade harvest of 117 MMBF/yr to a LTSY of 255 MMBF/yr. The average acres cut per year for the first decade is 4,900 acres of regeneration harvests. Timber is harvested with a mixture of clearcutting, shelterwood and selection. No intermediate cutting occurs until after the fifth decade.

**i. Road System**

Nearly 2,350 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. This alternative requires 29 miles of new local roads for the first decade.

**j. Socioeconomics**

In the first decade, yearly average budget expenditures of \$13,080,000 produces outputs and activities that provide \$10,095,000 in receipts to the U.S. Treasury and 2,638 private-sector jobs. The present net value for the entire 150 year planning horizon is \$753,500,000 discounted at 4 percent.

**k. Research Natural Area**

In addition to the Lochsa Research Natural Area, 7,651 acres located in eight areas are recommended for research natural areas. Seven areas are within recommended wilderness. The proposed Aquarius Research Natural Area includes 3,900 acres.

**Alternative J**

This alternative is similar to Alternative D in outputs and effects but differs in the amount of roadless area recommended for wilderness and available for timber production. Alternative J addresses timber production, elk, special

areas, water quality, minerals, fish habitat quality, and unroaded recreational issues.

#### a. Wilderness and Roadless Areas

Capacity for wilderness recreation increases from the present with the addition of 258,289 acres of new wilderness recommended in the Mallard-Larkins, Hoodoo (Great Burn), Cayuse-Toboggan, Elk Summit, and the Lakes Addition to the Selway-Bitterroot. Areas that remain unroaded but not recommended for wilderness are portions of Little North Fork, Elizabeth Lakes, Moose Mountain, North Lochsa Slope, Lochsa Face, Coolwater, Fourth of July, and Fish Creek totaling 168,900 acres.

#### b. Recreation

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 258,289 acres to the system. Although wilderness capacity increases, projected use just changes from dispersed use in a roadless setting to dispersed use in a wilderness setting.

#### c. Elk

Potential habitat is available on both summer and winter range to increase populations to 26,400 animals by the third decade. The elk population goal on winter range is greater than or equal to 18,700 animals for all decades. This goal is reached by increased timber harvesting and burning on winter range. The goal on summer range is greater than or equal to 21,250 elk for all decades. This goal is primarily accomplished by designating 151,800 acres of key summer range to wildlife/timber prescriptions (C2S, C6S), 65,000 acres of key summer range to a wildlife unroaded prescription (C1), and designating areas to wilderness and unroaded management. Winter range is generally the limiting factor in total elk populations for all decades.

Prescribed burning is scheduled on 3,471 acres per year to improve elk winter range.

#### d. Water Quality/Fishery

The water quality/fishery objective for Alternative J is high fishable across most of the Forest. This objective declines to moderate fishable in Lolo Creek, low fishable in the roaded portion of the Pierce District and minimum viable in the Palouse District.

These objectives result in a maximum population of 256,800 steelhead smolts, 386,300 chinook smolts and 536,400 resident fish which steadily declines after the first decade to a low of 243,000 steelhead, 361,700 chinook, and 533,900 resident fisheries.

#### e. Threatened and Endangered Species

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 258,289 acres of recommended wilderness, the 168,900 acres proposed for unroaded, the 34,700 acres of wildlife habitat improvement, and the 230,800 acres of Management Areas C4, C2S, and C6S provide essential habitat for the gray wolf. This habitat will maintain an estimated population of 15 wolves in Alternative J.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for minerals prospecting and exploration will be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. The 258,289 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Thirteen percent of Forest lands open to mineral entry would remain in a roadless status.

#### h. Timber

The suitable timberland for Alternative J is 949,200 acres or 71 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases sharply from the first decade harvest of 176 MMBF/yr to a long-term sustained yield (LTSY) of 431 MMBF/yr. The average acres cut per year for the first decade is 7,200 acres of regeneration harvests. Timber is harvested with a mixture of clearcutting, shelterwood and selection. No intermediate cutting occurs until after the fifth decade.

#### i. Road System

Approximately 4,920 miles of new roads are constructed to meet the timber harvest schedule. Most arterial and collector roads including those funded by capital investment funds are completed by the end of the fourth decade. This alternative requires 62 miles of new road per year for the first decade. Of this 62 miles, 11 miles are collector and arterial roads, and 51 miles are local roads.

#### j. Socioeconomics

In the first decade, yearly, average budget expenditures of \$16,195,000 produces outputs and activities that provide \$15,380,000 in receipts to the U.S. Treasury and 3340 private-sector jobs. The present net value for the entire 150 year planning horizon is \$1,095,400,000 discounted at 4 percent.

#### k. Research Natural Area

In addition to the Lochsa Research Natural Area, 4651 acres located in eight areas are recommended for research natural areas. Two of the areas are in



recommended wilderness. The proposed Aquarius Research Natural Area includes 900 acres.

### Alternative K (Preferred Alternative)

This alternative was developed after public review and comment of the Draft EIS. It provides a mix of market and nonmarket outputs. The amount of recommended wilderness and unroaded management acres increase over Alternative E, the DEIS's Proposed Action. Changes in management direction, outputs, and effects are a result of responding to public comments.

#### **a. Wilderness and Roadless Areas**

Capacity for wilderness recreation increases from the present with 198,200 acres of recommended wilderness in the Mallard-Larkins, Hoodoo (Great Burn), Elk Summit, and the Lakes Addition to the Selway-Bitterroot. Areas that remain unroaded but not recommended for wilderness are portions of or all of the following roadless areas: (names in parenthesis are specific locations within the roadless areas) North Lochsa Slope (Fish/Hungery Creek), Lochsa Face, Sneakfoot Meadows, Coolwater, Bighorn-Weitas (Fourth of July, Monroe, Cayuse, and Toboggan Creeks), Mallard-Larkins (Elizabeth Lakes), and Moose Mountain. These areas total 242,240 acres.

#### **b. Recreation**

Opportunities for dispersed recreation change over time from a mix of roaded natural and primitive experiences to more roaded natural. Limited new campground construction is planned, and existing campgrounds continue to receive minimum maintenance. Capacity for wilderness recreation increases because of the addition of 198,200 acres to the system. Although wilderness capacity increases, projected use changes from dispersed use in a roadless setting to dispersed use in a wilderness setting.

#### **c. Elk**

Potential habitat is available on both summer and winter range to increase the population to 29,200 animals by decade three. This population is reached by increased timber harvesting and burning on winter range. Elk habitat on summer range is maintained by designating 207,500 acres to wildlife/timber prescription (C8S), 45,100 acres to unroaded wildlife management prescription C1, and designating areas to wilderness and unroaded management (Management Areas: A3, B2, and C6).

Prescribed burning is scheduled on 1,300 acres per year to improve elk winter range.

#### **d. Water Quality/Fishery**

The water quality/fishery objective for Alternative K is high fishable in all Districts including Lolo and Elk Creek except moderate fishable in the roaded portion of Pierce District and minimum viable in the Palouse. "No effect" is the objective for wilderness and roadless areas.

These objectives result in a maximum population of 250,100 steelhead smolts, 367,100 chinook smolts, and 520,800 resident fish which steadily declines after the first decade to a low of 238,200 steelhead, 353,000 chinook, and 494,600 resident fisheries.

#### e. Threatened and Endangered Species

No action will be taken that adversely affects the T & E species. The 259,165 acres of existing wilderness, the 198,200 acres of recommended wilderness, 226,340 acres proposed for unroaded management, 39,000 acres of Management Area C3, and 301,500 acres of Management Areas C4 and C8S provide essential habitat for the gray wolf. The habitat will maintain an estimated population of 16 wolves.

#### f. Range

Forage production on permanent range stays at current levels. Opportunities for increasing grazing on transitory range are available beyond projected use.

#### g. Minerals

Opportunities for mineral exploration and prospecting would be enhanced by increased accessibility. New Forest aggregate sources would be developed as needed for road construction. The 198,200 acres of new wilderness would eventually be withdrawn from mineral entry depending on the specific legislation. Sixteen percent of Forest lands open to mineral entry would remain in a roadless status.

#### h. Timber

The suitable timberland for Alternative K is 987,700 acres or 74 percent of the tentatively suitable timberland of 1,336,074 acres. The timber harvest level increases from the first decade harvest of 173 MMBF/yr to a long-term sustained yield (LTSY) of 440 MMBF/yr. The average acres cut per year for the first decade is 11,200 acres of regeneration harvests. Timber is harvested with mixture of clearcutting, shelterwood and selection.

#### i. Road System

There will be 4,463 miles of new roads constructed over the 150 year planning horizon to meet the timber harvest schedule. Arterial and collector roads are completed by the end of the fourth decade. Alternative K requires 69 miles of road construction per year in decade one. Of this 69 miles, 13 miles are collector and arterial roads, and 56 miles are local roads.

#### j. Socioeconomics

In the first decade, average annual budget expenditures of \$19,581,000 produces \$14,328,000 in returns to the U.S. Treasury and 3,395 private-sector jobs. The present net value for the entire 150 year planning horizon is \$1,124,100,000 discounted at 4 percent.

#### k. Research Natural Area

In addition to the Lochsa Research Natural Area, 8,355 acres located in nine areas are proposed for research natural areas. Two of the areas are in recommended wilderness. The proposed Aquarius Research Natural Area includes 3,900 acres.

#### D. COMPARISON OF ALTERNATIVES

The discussion in this section focuses on how major outputs and economic effects vary among alternatives. A summary of how each issue is affected by alternatives is in Table II-16 of this chapter. Total outputs for each alternative and selected benchmarks are shown in Table II-24; outputs that vary among alternatives are discussed at the end of this chapter just prior to Table II-24. For discussion of environmental consequences of information presented in this section, see Chapter IV.

Changes made between draft EIS and this are:

- Preferred Alternative K has been added. This alternative was developed as a result of public comment on the DEIS.

Anadromous fish have been disaggregated into steelhead trout and chinook salmon.

- The discussion on timber in this section has been updated and revised to include results of A Report of Idaho's Timber Supply

- The timber section has also been updated to discuss silvicultural systems and results of analysis done on timber utilization standards.

The discussion on community effects in comparison of alternatives section has been expanded. It now includes a discussion on effects in the local economy.

- Narratives have been reviewed and revised where needed.

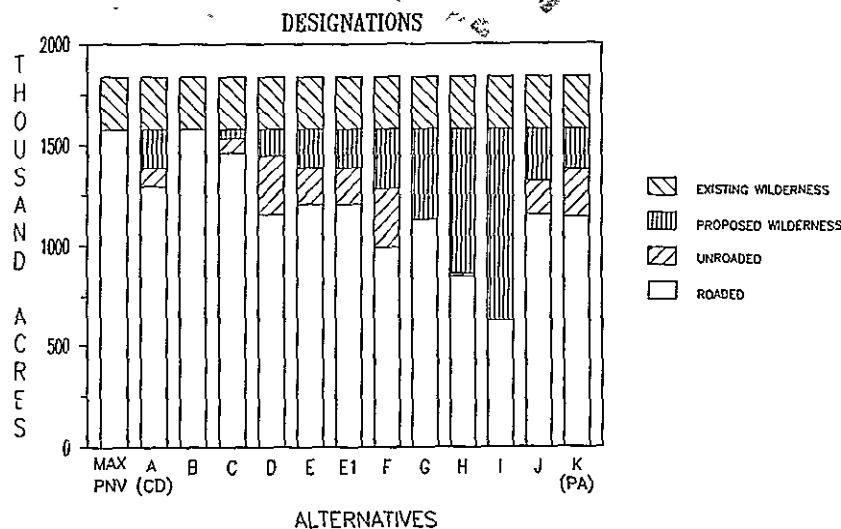
- Changes have been made to numbers in tables and text where errors or inconsistencies existed.

#### 1. Recreation

##### a. Dispersed Recreation

Dispersed recreation outside wilderness is addressed in two settings: roaded natural, and semiprimitive. Figure II-12 shows that Alternatives D, and F provide the most acres for semiprimitive recreation. Alternatives A (current direction), B, and C provide the most acres for roaded natural recreation. Alternatives E, E1, J, and K (Preferred Alternative) provide acres for semiprimitive recreation in the mid range. See Chapter IV for consequences of these designations.

FIG. II-12. WILDERNESS, UNROADED AND ROADED



#### b. Developed Recreation

Based on current data, the developed sites have an existing capacity of 345,000 recreation visitor days (RVD's). All alternatives will meet projected use to about 2005 with some instances of overuse due to people's preference. All alternatives provide minimum maintenance of developed recreational sites. In all alternatives land is available for the additional investment needed to meet the projected demand after 2010.

### 2. Wilderness, Recommended Wilderness, and Roadless Areas

Sixteen roadless areas in the Forest were inventoried and evaluated for wilderness in the 1979 RARE II (Roadless Area Review and Evaluation) Final Environmental Impact Statement. Four areas were recommended for wilderness while the other twelve areas were designated for nonwilderness.

In addition to the RARE II areas, the Forest had four roadless areas that were evaluated for wilderness prior to RARE II in two "unit plans." Both unit plans called for nonwilderness management. Since 1979, RARE II has been successfully appealed, and the status of some roadless areas have changed due to timber sales and road construction. While the changes, due to development, have been minimal all sixteen roadless areas (including those in the unit plans) were reinventoried in 1983. This resulted in an increase of 17 percent from 810,807 acres to 950,311 acres. Table II-1 shows these changes and lists the reason for the changes. Table II-1 also shows the five roadless areas that are contiguous to roadless areas on the Lolo, Nez Perce, Idaho Panhandle, and Bitterroot National Forests. The individual roadless areas are discussed more fully in Appendix C.

Although a range from development to roadless to wilderness for the Clearwater portion of areas 1841 (Rackcliff-Gedney) and 1805 (Lolo Creek) appears in the alternatives, no proposed action can be implemented until wilderness/nonwilderness decision for the entire area is made through each of the three Forest's Record of Decisions. A decision for the Lolo Forest portion of 1805 was made in the Lolo Forest Record of Decision dated April 1986. This frees the Clearwater portion to be implemented in the Clearwater Record of Decision. The decisions for 1300 (Mallard-Larkins), 1301 (Hoodoo), and 1302 (Meadow

Creek/Upper North Fork) are documented in the Record of Decision for the Clearwater Forest.

Table II-2 shows, by alternatives, the areas which are recommended for wilderness. Each roadless area was considered for wilderness in at least one alternative and for nonwilderness in at least one alternative. Alternative G provides for 48 percent of the roadless lands as wilderness while still maintaining or increasing commodity production on the other Forest lands. Table II-2 also shows the contiguous areas on the Lolo, Idaho Panhandle, and Nez Perce National Forests.

Table II-3 shows how the roadless resource would be managed under the different alternatives. For the purpose of this analysis the twenty-one management prescriptions developed earlier in the planning process, were grouped into eight management emphasis categories: wilderness; unroaded; elk winter; timber/wildlife; timber/visual/riparian; timber special; special; and protection. Table C-3 in Appendix C shows how the prescriptions were grouped as well as a description of each prescription.

Individual management emphasis tables were developed for each roadless area in Appendix C. These tables also display the proposed schedule for development where development is permitted. The amount of roadless land that could qualify for future consideration of wilderness is also shown at the end of decades one and five. These would be areas 5,000 acres or greater or possibly smaller areas contiguous to existing wilderness.

Table II-1

Roadless Area Inventory Adjustment  
\* Clearwater National Forest

ROADLESS AREA		ORIGINAL ACRES		CHANGES IN ACRES		REVISED ACRES		REASONS FOR INVENTORY CHANGE
CODE	ROADLESS NAME	GROSS	NET	GROSS	NET	GROSS	NET	REASON
01300	MALLARD-LARKINS Clw-	137,234	134,567	- 873	-1,821	136,361	132,746	
				-4,464	-2 565			Acreage recalculation
				- 100	- 100			Existing road
				-1,000	-1,000			FY 84 timber sale
				+4,691	+1,844			Addition of roadless
	IPNF-	146,120	131,120	-4,052	-4,588	142,068	126,532	Easement, Timber Sale
01301	HOODOO Clw-	151,400	145,440	+1,912	+3,707	153,312	149,147	
				+2,943	+4,190			Acreage recalculation
				-1,031	- 483			Existing timber sales (NF & PVT)
	** Lolo-	105,460	105,380	-6,880	-6,880	98,580	98,500	Acreage recalculation
01302	MEADOW CREEK- UPPER NORTH FORK Clw-	47,200	42,100	-1,760	-1,398	45,440	40,702	
				-1,575	-1,398			Acreage recalculation
				- 185	0			Existing timber sale (PVT)
	IPNF-	6,100	6,100	0	0	6,100	6,100	
	** Lolo-	7,200	7,200	0	0	7,200	7,200	
01303	SIWASH	9,300	9,100	- 289	- 249	9,011	8,851	Acreage recalculation
01304	POT MOUNTAIN	50,500	50,500	- 708	- 708	49,792	49,792	Acreage recalculation
01305	MOOSE MOUNTAIN	19,800	19,800	+1,593	+1,593	21,393	21,393	
				+1,847	+1,847			Acreage recalculation
				- 254	- 254			Existing timber sale & road
01306	BIGHORN-WEITAS	237,500	237,500	-1,230	-1,990	236,270	235,510	
				+ 520	- 240			Acreage recalculation
				-1,750	-1,750			Existing timber sales & roads
01307	N LOCHSA SLOPE	35,900	35,900	+77,762	+77,762	113,662	113,662	
				- 3,022	- 3,022			Acreage recalculation
				- 648	- 648			Existing timber sale
				- 640	- 640			FY 84 timber sale & road
				+82,072	+82,072			Addition of unit plan roadless
01308	WEIR-POST OFFICE	27,200	27,200	-4,595	-4,595	22,605	22,605	
				- 602	- 602			Acreage recalculation
				-3,993	-3,993			Existing timber sale & road

(Table II-1 cont )

## Roadless Area Inventory Analysis

ROADLESS AREA		ORIGINAL ACRES		CHANGES IN ACRES		REVISED ACRES		REASONS FOR INVENTORY CHANGE	
CODL	ROADLESS NAME	GROSS	NET	GROSS	NET	GROSS	NET	REASON	
01309	NF SPRUCE-WHITE SAND	12,000	12,000	+21,454	+21,454	33,454	33,454		
				- 2,372	- 2,372			Acreage recalculation	
				- 1,074	- 1,074			Existing timber sale	
				+24,900	+24,900			Addition of unit plan roadless	
01311	LOCHSA FACE	47,100	47,100	+25,927	+25,927	73,027	73,027		
				- 1,746	- 1,746			Acreage recalculation	
				+27,673	+27,673			Addition of unit plan roadless	
01312	ELDORADO	11,000	11,000	-3,122	-3,122	7,878	7,878	Existing timber sales (3)	
01313	RAWHIDE	5,300	4,400	0	0	5,300	4,400		
X1314	SNEAKFOOT MEADOWS			+22,334	+22,334	22,334	22,334	Addition of unit plan roadless	
Q1805	LOLO CREEK	Clw-	100	100	0	0	100	100	
	** Lolo-	16,400	14,900	-240	-240	16,160	14,660	Roads and timber sales	
	** Btrt-	587	587	0	0	587	587		
01841	RACKLIFF-GEDNEY	Clw-	33,600	33,600	+1,110	+1,110	34,710	34,710	Acreage recalculation
	Nzp-	53,000	53,000	+2,463	+2,463	55,463	55,463	Acreage recalculation	
TOTAL		Clw-	825,134	810,307	+139,515	+140,004	964,649	950,311	
		Other-	334,867	318,287	-8,709	-9,245	326,158	309,042	

\* Includes adjustments for contiguous areas on Idaho Panhandle, Lolo, Nez Perce, and Bitterroot National Forests

\*\* Lolo and Bitterroot Forests are in Montana

Table II-2

## Wilderness Designation by Roadless Area

ROADLESS AREA		A (cd)	B	C	D	E	F	G	H	I	J	K (pa)
MALLARD-LARKINS												
Clearwater	M ACRES	68	0	22	17	63	65	109	109	133	63	67
	PERCENT	51	0	16	12	47	49	82	82	100	47	50
IPNF	M ACRES	72	0	22	71	83	73	103	104	120	71	76
	PERCENT	57	0	18	56	57	58	82	82	95	56	60
Total	M ACRES	140	0	44	87	139	139	213	213	253	134	143
	PERCENT	54	0	17	34	55	53	82	82	97	52	55
HOODOO												
Clearwater	M ACRES	100	0	20	64	100	138	138	132	149	120	113
	PERCENT	67	0	13	43	67	92	92	88	100	80	76
Lolo-Montana	M ACRES	82	0	0	82	82	82	82	82	99	82	90
	PERCENT	83	0	0	83	83	83	83	83	100	83	91
Total	M ACRES	182	0	20	146	182	220	220	214	248	201	203
	PERCENT	74	0	8	59	74	89	89	86	100	81	82
MEADOW CR-UPPER NF												
Clearwater	M ACRES	0	0	0	0	0	0	0	0	41	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
IPNF	M ACRES	0	0	0	0	0	0	0	6	6	0	0
	PERCENT	0	0	0	0	0	0	0	100	100	0	0
Lolo-Montana	M ACRES	0	0	0	0	0	0	7	0	7	0	0
	PERCENT	0	0	0	0	0	0	100	0	100	0	0
Total	M ACRES	0	0	0	0	0	0	7	6	54	0	0
	PERCENT	0	0	0	0	0	0	13	11	100	0	0
SIWASH	M ACRES	0	0	0	0	0	0	0	0	9	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
POT MTN	M ACRES	0	0	0	0	0	0	0	50	50	0	0
	PERCENT	0	0	0	0	0	0	0	100	100	0	0
MOOSE MTN	M ACRES	18	0	0	0	0	16	16	21	21	0	0
	PERCENT	86	0	0	0	0	86	86	100	100	0	0
BIGHORN-WEITAS	M ACRES	0	0	0	50	0	74	71	207	236	50	0
	PERCENT	0	0	0	21	0	32	31	88	100	21	0
N LOCHSA SLOPE	M ACRES	0	0	0	0	0	0	54	78	114	0	0
	PERCENT	0	0	0	0	0	0	47	69	100	0	0
WEIR- POST OFFICE	M ACRES	0	0	0	0	0	0	0	0	23	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0



(Table II-2 cont )

## Wilderness Designation by Roadless Area

ROADLESS AREA		A (cd)	B	C	D	E	F	G	H	I	J	K (pa)
NF SPRUCE- WHITE SAND	M ACRES	4	0	4	0	10	4	21	23	33	10	10
	PERCENT	12	0	12	0	30	12	62	70	100	30	29
LOCHSA FACE	M ACRES	0	0	0	0	8	0	24	73	73	8	0
	PERCENT	0	0	0	0	10	0	33	100	100	10	0
ELDORADO CREEK	M ACRES	0	0	0	0	0	0	0	0	8	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
RAWHIDE	M ACRES	0	0	0	0	0	0	0	0	4	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
SNEAKFOOT MDWS	M ACRES	0	0	0	0	8	0	21	21	22	8	9
	PERCENT	0	0	0	0	36	0	95	95	100	36	39
LOLO CREEK												
Clearwater	M ACRES	0	0	0	0	0	0	0	0	1	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
Lolo-Montana	M ACRES	0	0	0	0	0	0	0	0	147	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
Bitterroot-Montana	M ACRES	0	0	0	0	0	0	0	0	.06	0	0
	PERCENT	0	0	0	0	0	0	0	0	10	0	0
Total	M ACRES	0	0	0	0	0	0	0	0	15	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
RACKLIFF-GEDNEY												
Clearwater	M ACRES	0	0	0	0	0	0	0	0	35	0	0
	PERCENT	0	0	0	0	0	0	0	0	100	0	0
Nez Perce	M ACRES	0	0	0	0	0	55	55	55	55	0	0
	PERCENT	0	0	0	0	0	100	100	100	100	0	0
Total	M ACRES	0	0	0	0	0	55	55	55	90	0	0
	PERCENT	0	0	0	0	0	62	62	62	100	0	0
TOTAL												
Clearwater	M ACRES	190	0	46	130	189	297	454	716	950	258	198
	PERCENT	20	0	5	14	20	31	48	75	100	27	59
Other Forests	M ACRES	154	0	22	153	158	211	248	247	302	153	166
	PERCENT	51	0	7	50	51	68	80	80	98	50	74

Table II-3 (Part I)

## Management Emphasis by Alternative for Roadless Areas

Management Emphasis	Alternatives (Thousand Acres)											
	A (cd)	B	C	D	E	E1	F	G	H	I	J	K (pa)
<u>WILDERNESS</u>	190.4 (153.9)	0 (0)	45.5 (22.2)	130.4 (152.8)	188.9 (158.2)	188.9 (158.2)	297.2 (210.6)	454.0 (248.0)	715.5 (247.0)	950.3 (302.4)	258.3 (152.8)	198.2 (165.8)
<u>NONWILDERNESS</u>												
Unroaded	91.6 (75.1)	0 (69.1)	70.7 (51.2)	292.5 (108.1)	188.4 (87.1)	188.4 (87.1)	290.4 (56.8)	0 (29.1)	12.0 (23.6)	0 (0)	165.5 (108.1)	226.4 (80.9)
Elk Winter	29.7 (3.8)	21.6 (3.1)	26.2 (5.0)	35.3 (0.9)	23.6 (1.5)	23.6 (1.5)	39.1 (1.2)	14.9 (0.8)	17.9 (0.8)	0 (0)	35.3 (0.9)	28.2 (1.5)
Timber/Wldlf-Wtshd	418.3 (35.4)	566.3 (174.9)	544.8 (175.1)	195.2 (28.8)	96.8 (37.6)	89.2 (37.6)	86.7 (18.8)	329.9 (13.7)	31.4 (24.8)	0 (0)	180.7 (28.8)	99.7 (38.2)
Timber/Visual-Rip	120.4 (7.6)	53.5 (0.7)	59.0 (0.7)	105.9 (0.7)	114.9 (1.4)	114.9 (1.4)	100.3 (3.5)	101.8 (2.7)	44.7 (0.7)	0 (0)	101.8 (0.7)	38.9 (1.4)
Timber/Special	0 (0.3)	0 (0.3)	14.5 (0.3)	113.0 (0.2)	236.0 (0.2)	243.6 (0.2)	83.8 (0)	0 (0)	100.7 (0.2)	0 (0)	142.8 (0.2)	173.6 (0.2)
Special	20.0 (9.4)	20.0 (8.3)	22.3 (8.0)	23.6 (7.9)	23.3 (8.3)	23.3 (8.3)	25.8 (7.9)	20.4 (7.9)	11.2 (6.6)	0 (6.6)	22.8 (7.9)	26.4 (8.3)
Min Level	79.9 (23.5)	288.9 (52.6)	167.3 (46.5)	54.4 (9.6)	78.4 (14.7)	78.4 (14.7)	27.0 (10.2)	29.3 (6.8)	16.9 (5.3)	0 (0)	43.1 (29.6)	158.9 (29.7)
TOTAL-Clearwater Other	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)	950.3 (309.0)

Table II-3 (Part II)

## Management Emphasis by Alternative for Roadless Areas

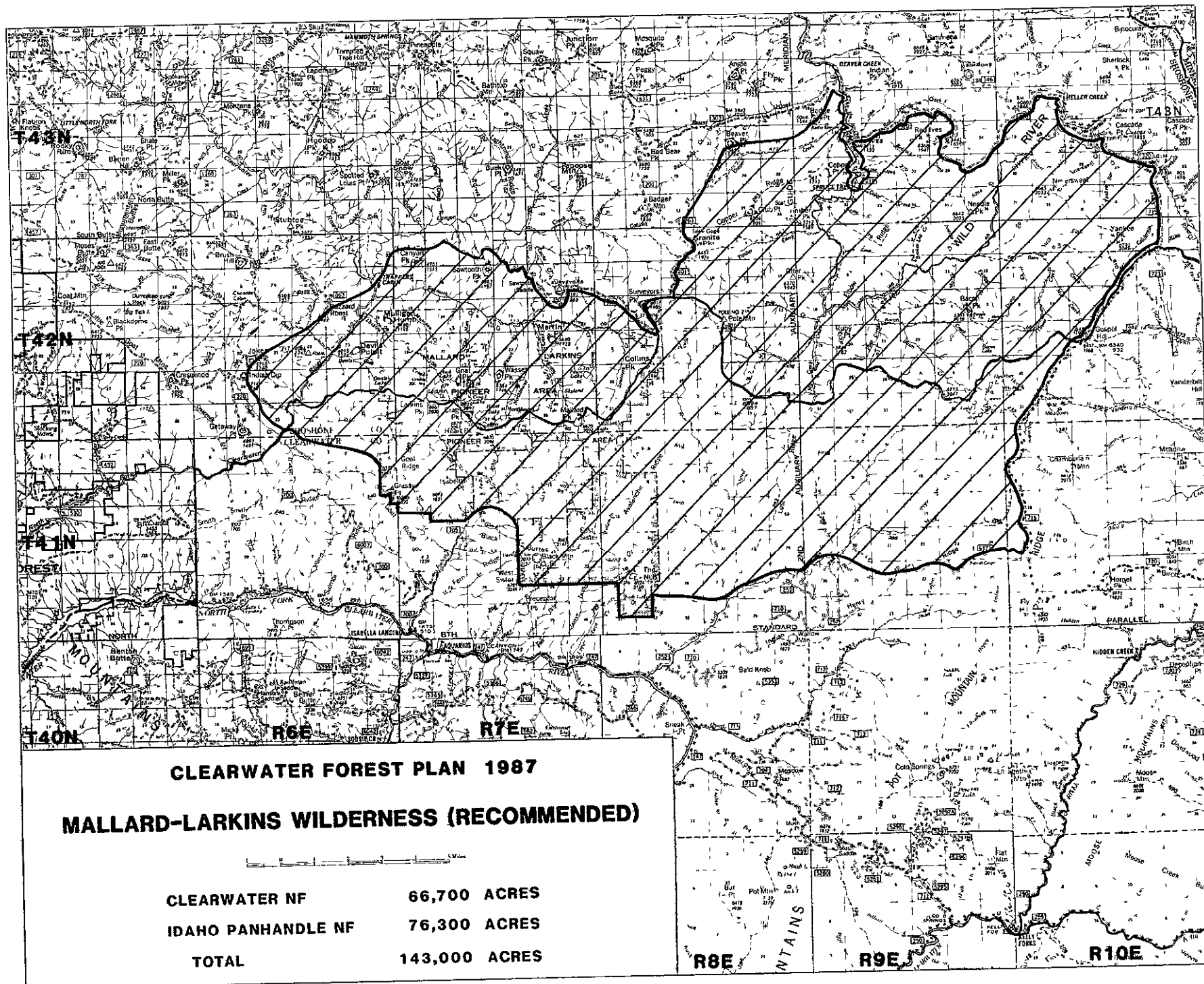
	Alternatives (Thousand Acres)											
	A (cd)	B	C	D	E	E1	F	G	H	I	J	K(pa)
<u>WILDERNESS</u>												
Clearwater	190 4	0	45 5	130 4	188 9	188 9	297 2	454 0	715 5	950 3	258 3	198 2
Other	(153 9)	(0)	(22 2)	(152 8)	(158 2)	(158 2)	(210 6)	(248 0)	(247 0)	(302 4)	(152 8)	(165 8)
<u>NONWILDERNESS</u>												
<u>DEVELOPED</u>												
Decade 1												
Clearwater	189 4	204 2	200 1	185 3	189 8	189 8	142 7	134 6	96 5	0	185 3	120 8
Other	(31 0)	(49 5)	(50 7)	(14 5)	(7 2)	(7 2)	(9.8)	(16 4)	(12 3)	(0)	(14.5)	(7 2)
Decade 5												
Clearwater	530 6	625 4	587 6	464 3	519 3	519 3	293 8	380 5	205 4	0	464 3	477 0
Other	(75 5)	(237 5)	(232 8)	(47 0)	(55 0)	(63 4)	(40 6)	(30 9)	(39 5)	(0)	(47 0)	(55 0)
<u>ROADLESS</u>												
Decade 1												
Clearwater	570 5	746 1	704 7	634 6	571 6	571 6	510 4	361 7	138 3	0	506 7	631 6
Other	(124.1)	(259 5)	(236 1)	(141 7)	(143 6)	(143 6)	(88 6)	(44 6)	(49 7)	(6 6)	(141 7)	(73 0)
Decade 5												
Clearwater	229 3	324 9	317 2	355 6	242 1	242 1	359 3	115 8	29 4	0	227 7	275 1
Other	(79 6)	(71 5)	(54 0)	(109 2)	(95 8)	(95 8)	(57 8)	(30 1)	(22 5)	(6 6)	(109 2)	(95.8)

\* Numbers in parenthesis represent combined acreages of contiguous areas in Idaho Panhandle, Lolo, Nez Perce, and Bitterroot National Forests See Appendix C for breakdown by individual roadless areas

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# CLEARWATER FOREST PLAN 1987

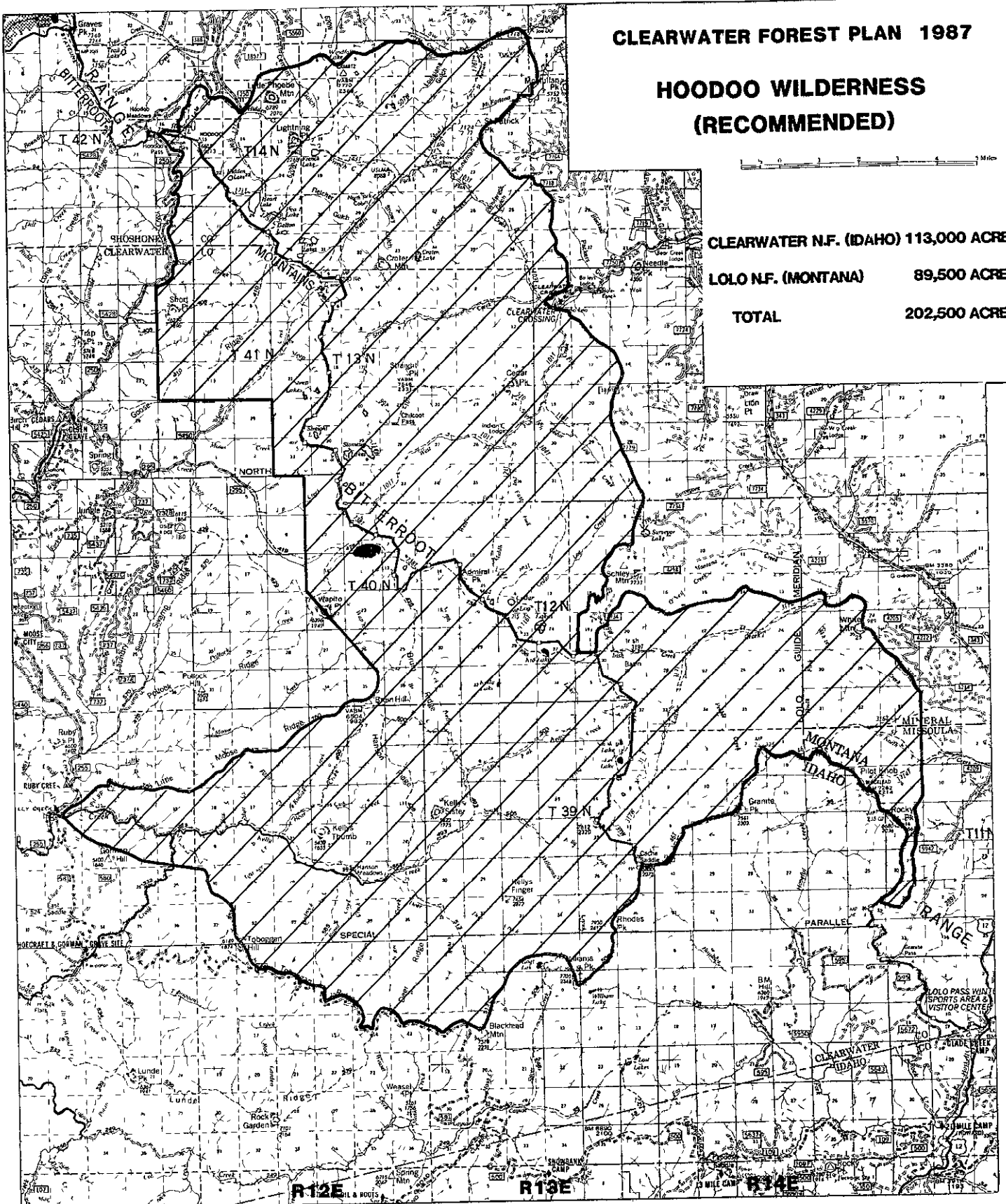
## HOODOO WILDERNESS (RECOMMENDED)



CLEARWATER N.F. (IDAHO) 113,000 ACRES

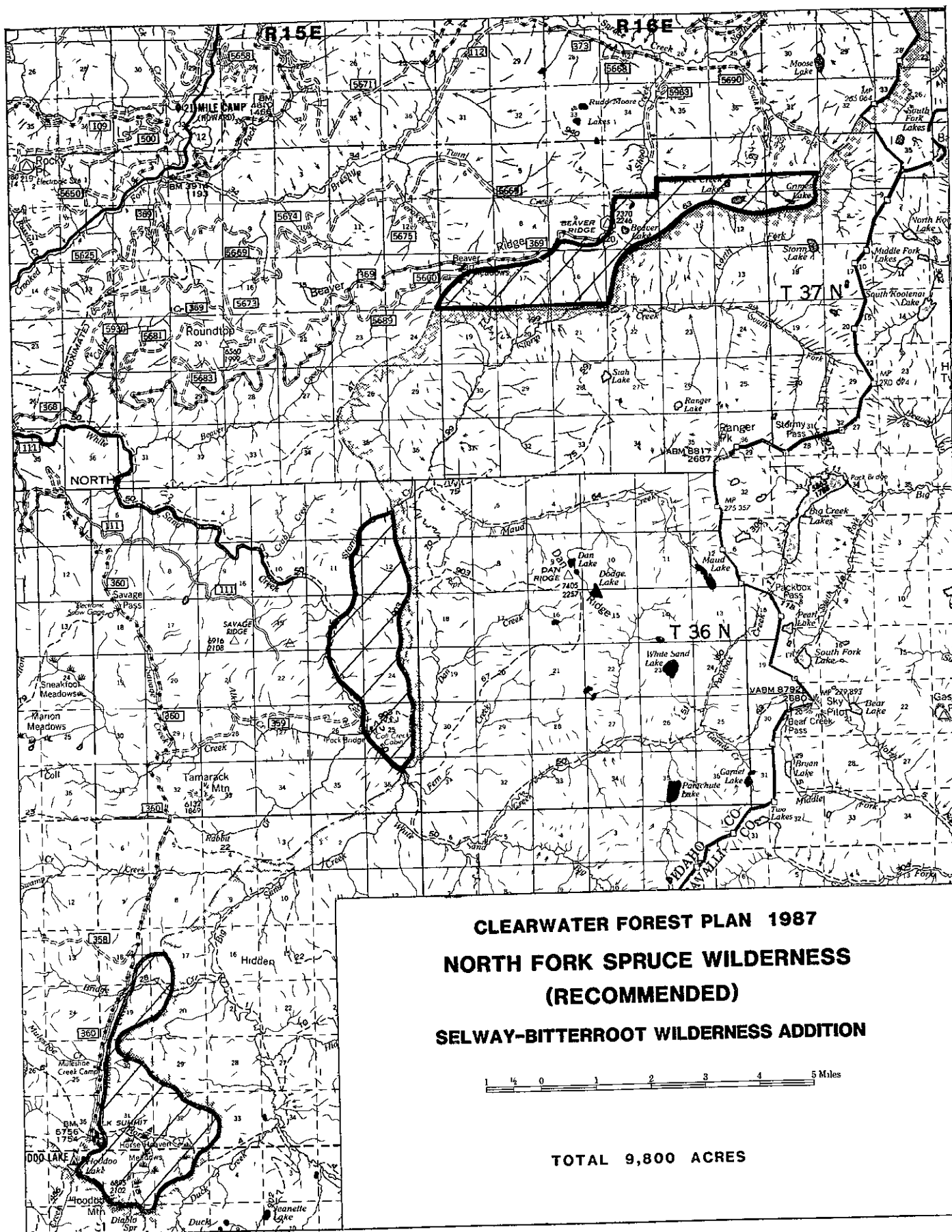
LOLO N.F. (MONTANA) 89,500 ACRES

TOTAL 202,500 ACRES



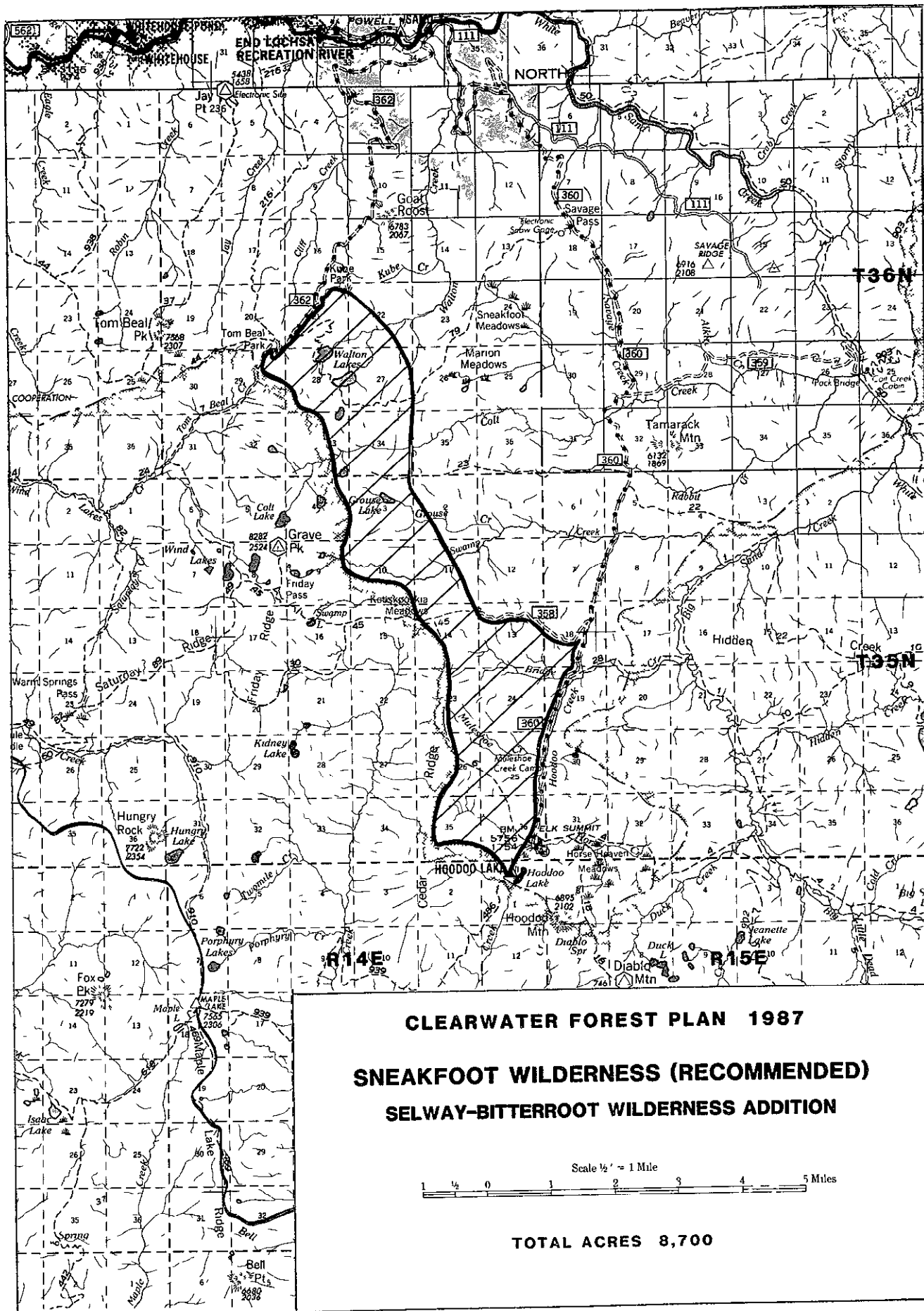






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### 3. Visual Quality

A natural appearing landscape consists of basic vegetative patterns, landforms, rock formations, and water forms. Acceptable alterations of these features are referred to as visual quality objectives (VQO's) in National Forest Landscape Management, Volume 2, Chapter 1, "The Visual Management System." The VQO's were established for the Clearwater National Forest using this system.

The Visual Management System has five VQO's: preservation, retention, partial retention, modification, and maximum modification. Preservation (P) allows for only ecological changes. Recreational facilities which cause very low visual impacts are permissible.

Retention (R) permits management activities which are not evident to the casual Forest visitor. Partial retention (PR) allows activities that are evident but are visually subordinate to a landscape's character.

Modification (M) lets management activities dominate the original landscape. However, activities that change vegetation and landform must borrow from naturally established form, line, color, and texture to the degree that the visual characteristics of the activities will appear as those of natural occurrences within the surrounding area.

Maximum modification (MM) can be achieved when activities dominate the characteristic landscape, but the activities should appear as a natural occurrence when viewed from a distance.

The VQO's of R and PR are considered the most constraining of management activities. For example, management activities can be restricted and may need to be modified so as not to dominate the characteristic landscape. In some cases outputs may have to be reduced for short periods of time. Timber harvesting and road construction are the two activities that can dominate the character of a landscape.

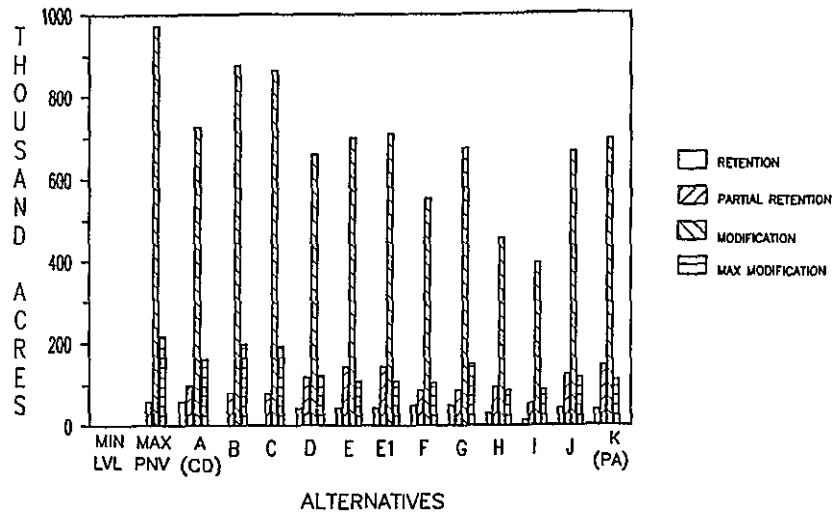
M and MM are considered less constraining as management activities may dominate the landscape's character. See Chapter IV, pages IV-59 and IV-60, for more details on the effects of management activities relative to VQO's.

Figure II-13 displays the VQO's for the alternatives. Alternative B has the greatest effect on the character of the landscape as it has the most acres managed for M and MM. Existing wilderness and recommended wilderness acres will be managed for preservation visual quality objectives.

### 4. Cultural Resources

All alternatives contain provisions to inventory and protect archeological and historic resources in accordance with existing direction and regulations. See Chapter IV, Section E, for specific discussion of provisions included.

FIG. II-13. VISUAL QUALITY OBJECTIVES  
ON SUITABLE TIMBERLAND



## 5. Research Natural Areas

Research Natural Areas (RNA's) are established by the Chief of the Forest Service, and typify important Forest, shrubland, grassland, aquatic, and geologic types that have special or unique characteristics of scientific interest and importance. Research natural areas are not available for resource management, and public recreation is not encouraged.

The Forest has one established RNA, the Lochsa RNA. It contains 1281 acres.

The alternatives were developed to consider public issues. Each alternative proposes different acreages to be managed as research natural areas as shown in Table II-4 on the following page.

Table II-4

## \*Research Natural Areas (Existing and Proposed)

AREA	Benchmarks/Alternatives (Acres)												
	MIN LEVEL	MAX PNV	A (cd)	B	C	D	E & E1	F	G	H	I	J	K(pa)
Lochsa (Exist )	1281 (705)	1281 (705)	1281 (705)	1281 (705)	1281 (705)	1281 (705)	1281 (705)	1281 (705)	1281 (705)	1281 (705)	1281 (0)	1281 (705)	1281 (705)
Aquarius	0	0	0	0	235 (235)	900 (900)	900 (900)	3900 (3900)	235 (235)	3900 (3900)	3900 (0)	900 (900)	3900 (3900)
Bald Mtn	0	0	0	0	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	100 (0)	100 (0)	100 (100)	370 (370)
Bull Run	0	0	0	0	373 (373)	373 (373)	373 (373)	373 (373)	373 (373)	373 (373)	373 (373)	373 (373)	373 (373)
Chateau Falls	0	0	0	0	220 (220)	220 (220)	220 (220)	220 (220)	220 (220)	220 (0)	220 (0)	220 (220)	220 (220)
Dutch Creek	0	0	0	0	190 (0)	190 (0)	190 (0)	190 (0)	190 (0)	190 (0)	190 (0)	190 (0)	190 (0)
Four-Bit	0	0	0	0	0	0	0	0	0	0	0	0	330 (330)
Sneakfoot Meadows	0	0	0	0	1766 (1766)	1766 (1766)	1766 (1766)	1766 (1766)	1766 (0)	1766 (0)	1766 (0)	1766 (1766)	1870 (1870)
Steep Lakes	0	0	0	0	784 (157)	784 (784)	784 (0)	784 (0)	784 (0)	784 (0)	784 (0)	784 (0)	784 (0)
Subalpine Type	0	0	0	0	318 (0)	318 (0)	318 (0)	318 (0)	318 (0)	318 (0)	318 (0)	318 (0)	318 (0)
Total Gross	1281	1281	1281	1281	5257	5932	5932	8983	5257	8932	8932	5932	9636
Total Net	(651)	(651)	(651)	(651)	(3502)	(4794)	(4010)	(7010)	(1579)	(4924)	(373)	(4010)	(7768)

\*To avoid double counting acreages, those RNA acreages or portion of RNA acreages that fall within Management Areas A7 (recreation river), B1 (Selway-Bitterroot Wilderness), or B2 (recommended wilderness) are designated to those Management Areas. The acreages shown on the first line for each RNA represent the gross acreage of the RNA, the figures in parenthesis represent the net acreage designated for Research Natural Area management.

## 6. Wildlife

All alternatives and benchmarks were designed at least to ensure the maintenance of minimum viable populations of wildlife and fish on a Forestwide basis. Maintenance of minimum viable populations of wildlife and fish requires that each alternative provides an acceptable low risk of species loss by assuring sufficient numbers of breeding adults through an appropriate distribution and diversity of suitable habitats.

The following indicator species have been identified to represent wildlife that prefer certain habitat types:

Bald Eagle	Pileated Woodpecker
Grizzly Bear	Goshawk
Gray Wolf	Pine Marten
Elk	Belted Kingfisher
Moose	White-tailed Deer
Bull Trout (Dolly Varden)	Westslope Cutthroat Trout
Steelhead Trout	Chinook Salmon
Rainbow and Brook Trout	
(in the Palouse District)	

See Chapter III starting on page III-21 for a more complete description of indicator species. Habitat types preferred by these species will be monitored.

### a. Elk

Elk is the big-game species of greatest public interest in the Forest. Elk are used as an indicator species except in the Palouse District where the white-tailed deer is the primary indicator species. It is assumed that deer habitat is similar to elk habitat, and population trends will be similar between the species.

In the earlier decades, the amount of available winter range habitat is the limiting factor of the total habitat. Winter range carrying capacities are dependent upon the production of forage through a combination of prescribed fires and logging on winter ranges. Table II-5 illustrates acres of prescribed fire on elk winter range by alternative. The acres of prescribed fire in the Preferred Alternative K was decreased from Alternative E as a result of public review of the DEIS. The decrease resulted from a change in assumptions in the effects of prescribed burning (see changes between DEIS and FEIS in Chapter I).

Table II-5. Prescribed Fire Treatment on Elk Winter Range  
All Decades (acres) (average annual)

MIN LVL	MAX PNV	A (cd)	B	C	Benchmarks/Alternatives								K (pa)
					D	E	E1	F	G	H	I	J	
0	105	4182	2732	3188	3471	3438	3335	5388	2808	1424	218	3471	1300



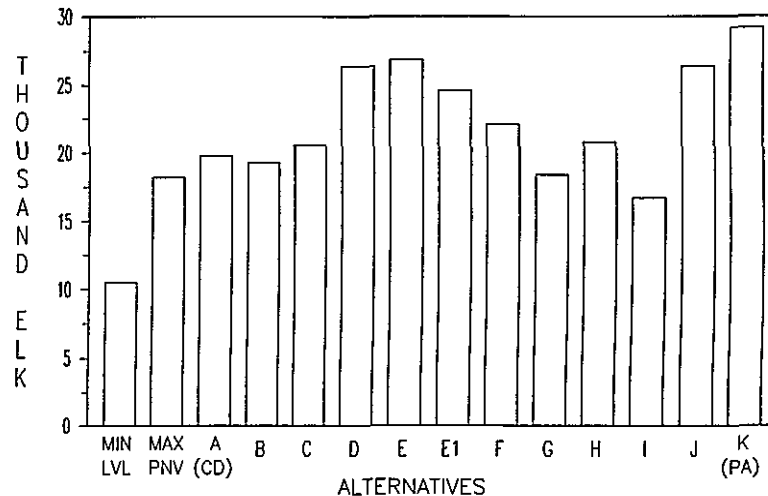
See Chapter IV for a discussion of why habitat improvement appears to drop in all alternatives except F from the current direction (Alternative A).

As more roadless areas are accessed by roads and timber harvest activities increase in the later decades, the amount of summer range habitat also becomes a limiting factor. The potential elk population declines on summer range because the increased management activities decrease the amount of elk hiding cover and affect the elk's need for security areas where they can avoid regular encounters with humans.

Figure II-14 displays the potential number of elk by alternative for the total potential elk habitat in the third decade. Except in Preferred Alternative K, the third decade has the highest amount of timber harvest on elk winter range that occurs during the 150 year planning horizon and represents in most alternatives the optimum potential elk habitat. Displays of potential elk numbers on winter and summer habitats are in Table II-24.

Alternatives D, E, E1, F, and K (Preferred Alternative) provide the most favorable potential elk habitat over the 150 year period. Part of the reason is that more roads are scheduled to be closed. Alternative B and C provide the least amount of potential elk habitat.

FIG. II-14. ELK HABITAT POTENTIAL,  
THIRD DECADE



#### b. Moose

Moose is one of the indicator species. Moose habitat availability varies with the emphasis of each alternative. Because of the large concentration of moose in the Elk Summit area, Alternative I, which proposes wilderness for the Elk Summit area, provides the most protection for moose. Old-growth stands (160 years or older) with understories of young conifers and pacific yew, which are preferred forage, will be maintained or replaced. Alternative H proposes wilderness for most of the summer range and provides road closures following timber harvest on the winter range. Alternative G proposes wilderness for the summer range and some of the winter range and regular timber management on the

rest. Alternatives D, E, J, and K (Preferred Alternative) provide road closures following timber harvest on winter and summer range. Cutting practices will maintain some stands of old growth on both winter and summer range. Alternative F provides for a combination of unroaded and road closures on both summer and winter range. Alternatives A (current direction), B, and C provide the least amount of forage and cover for moose with little or no special management practices on either summer or winter range.

#### c. Old-Growth Dependent Species

Stands of old-growth trees provide habitat for certain species of wildlife. Pileated woodpecker and the goshawk are indicator species for old-growth habitat.

Evaluation of old-growth habitat is made using at least two factors: distribution and amount. Large wildfires between 1910 and 1934 lowered the Forestwide old growth to approximately 10 percent of the timberlands. To assure Forestwide distribution of old growth, five percent of each 10,000 acre land unit is maintained as old growth. In all alternatives this requirement may delay timber harvest in some old-growth timber until other timber stands achieve maturity to qualify as old growth.

The Forest currently has 19 percent Forestwide in old growth. Old growth is defined as a stand of trees 160 years or older and 25 acres or larger in size. Certain timber types might provide old-growth of 100 years of age. See Appendix H in Forest Plan for more specific information. Table II-6 displays the acres of old growth by alternative in decade 10 (100 years).

Table II-6. Old Growth on All Lands by Alternative  
Decade 10 (thousand acres)

MIN LVL	MAX PNV	A (cd)	B	C	<u>Benchmarks/ Alternatives</u>		E1	F	G	H	I	J	K (pa)
					D	E							
1253	618	725	625	630	753	764	699	800	728	855	954	750	558

#### d. Threatened and Endangered Species

In all alternatives, the Forest will work with the U.S. Fish and Wildlife Service in its recovery efforts for threatened and endangered species. Threatened and endangered species are indicator species.

Although the grizzly bear is listed by the U.S. Fish and Wildlife Service as a threatened species on the Clearwater National Forest, none of the habitat is recognized as occupied habitat. The habitat identified is located on the east side of the Forest in the Bitterroot mountains and primarily within the Selway-Bitterroot Wilderness. The acres of grizzly bear habitat are an extension of a much larger ecosystem located on the Bitterroot and Nez Perce National Forests. In all alternatives, actions will continue to determine if grizzly bears use this habitat and, if so, how many.

Northern bald eagles use some third-and-fourth-order-streams on the Forest during winter migration. No bald eagle nests or communal roost sites have been identified in the Forest. Currently, nest or roost sites are located on other public or private lands.

The endangered rocky mountain gray wolf is present on the Forest. Status of the population, whether transient or resident, is not known, and essential habitat to promote recovery has not been identified. The Northern Regional Guide directs the Forest to evaluate the capacity of supplying habitat for a minimum of ten wolves. Availability of habitat was determined for each alternative and benchmark by evaluating management prescriptions that provide a reduction in the likelihood of human-wolf encounters. Table II-7 displays the expected potential habitat for gray wolf by alternative. Potential habitat for gray wolves meets the Regional Guide requirement of ten wolves for all alternatives except B and C.

*see also IV-20  
FEIS*

Table II-7. Potential Habitat for Gray Wolves by Alternative  
(no. of wolves)

MIN LVL	MAX PNV	A (cd)	B	C	<u>Benchmarks/Alternatives</u>				G	H	I	J	K (pa)
					D	E	E1	F					
20	5	10	6	8	14	15	15	16	13	18	20	15	16

Alternative I, which recommends all the inventoried roadless areas for wilderness designation, will provide the highest potential habitat for gray wolf recovery.

A fourth species, the Coeur d' Alene Salamander, is listed as a candidate species by the Fish and Wildlife Service. Candidate species are not protected under the Endangered Species Act, but management direction would be provided that would determine where they are located and to what extent they could be impacted.

Formal consultation with the Fish and Wildlife Service would be requested in the event impacts were expected on the Salamander or any other potential future candidate.

## 7. Fish

The potential fish habitat for resident fish (resident-trout) and anadromous fish is affected by the amount of sediment in streams. The Forest's watersheds currently supply potential habitat in excess of anadromous fish populations. This situation exists because hydroelectric dams downstream in the Snake and Columbia Rivers systems form substantial barriers to upstream and downstream fish migration and dramatically influence population levels, especially chinook salmon.

Potential resident fish, steelhead trout, and chinook salmon decreases from existing potential in all alternatives, as shown in Figures II-15, II-16, and

II-17. These figures display potential fish populations in decades one and five. The decline is due to increased sediment yields which affects both spawning and rearing habitat for both groups of fish. (See discussion on sediment on page II-84.) The degree to which potential habitat is reduced relates to the amount of roading and logging activity and, to some degree, the amount of wilderness or unroaded areas recommended in each alternative. Sediment yields are not expected to significantly change after decade five. Anadromous fish populations approach minimum viable population levels in Alternative B.

FIG II-15 RESIDENT FISH

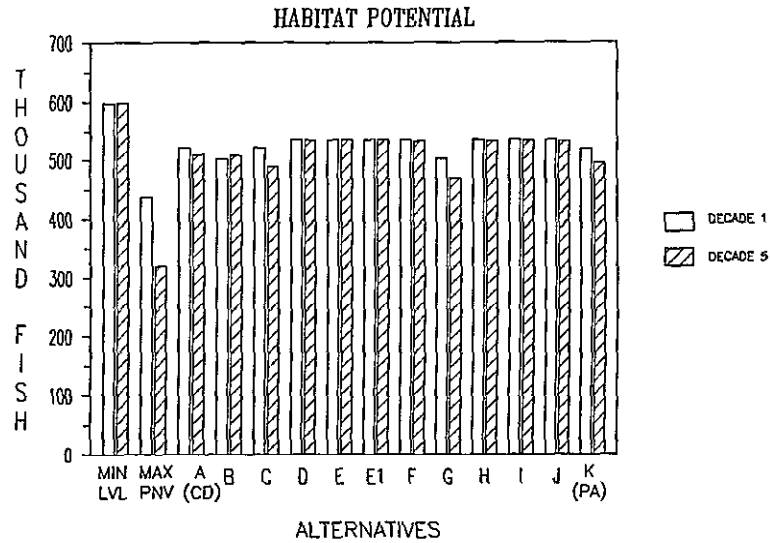


FIG. II-16. STEELHEAD HABITAT POTENTIAL

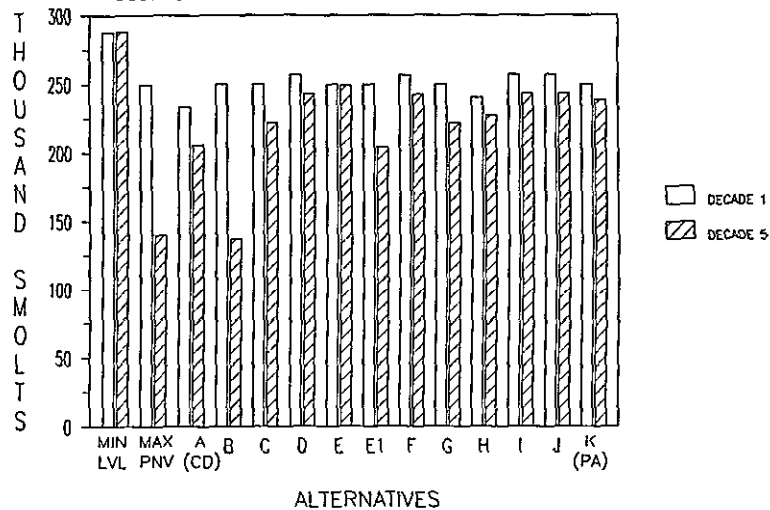
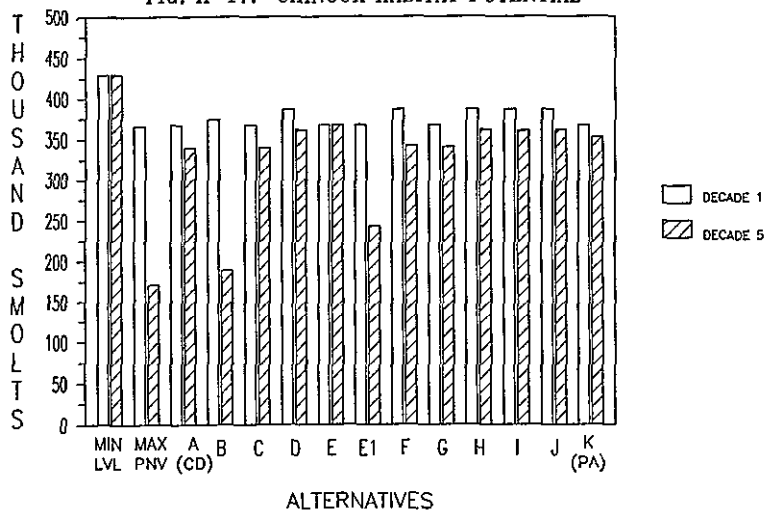


FIG. II-17. CHINOOK HABITAT POTENTIAL

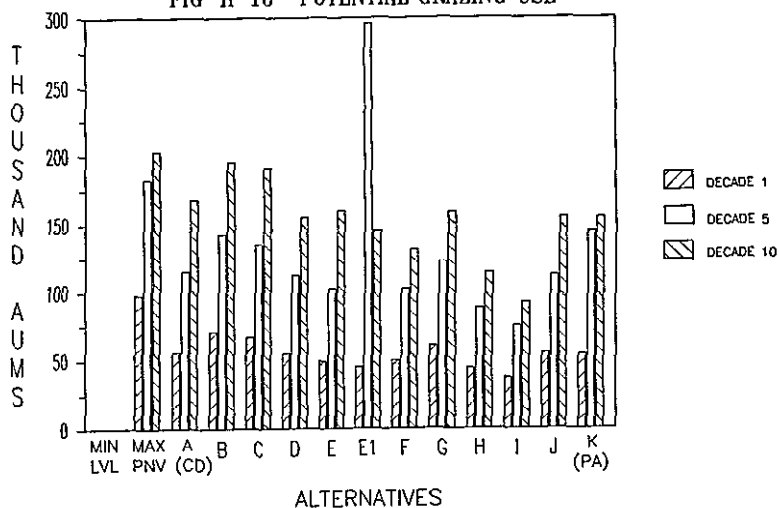


As noted in Appendix J of the Forest Plan, minimum viable populations of fish may not be maintained in the short run on some streams of the Forest under certain management conditions. To meet a timber harvest on Palouse somewhat near current levels, Alternatives E, E1, and K (Preferred Alternative) would provide a fishery population at the minimum viable level. Although there is no way to predict the effects of management on intermingled private lands on the Palouse in the future, practices on Forest Service lands will be modified to maintain a minimum viable fishery populations.

## 8. Range

Expansion of livestock production over current levels can be accomplished by using transitory range created by harvesting timber. For a period of time following harvest and reforestation, a large amount of forage suitable for livestock is available. Current grazing use is about 16,000 animal unit months (AUM's) and does not exceed current capacity. In all alternatives it is anticipated that livestock use will increase on the more accessible portions of the Forest. Figure II-18 shows the AUM's in decades one, five, and ten.

FIG II-18 POTENTIAL GRAZING USE



## 9. Timber

### a. Timber Harvest

Cubic foot volumes scheduled for harvest in decades one, five, and ten are shown in Figures II-19 and board foot volumes for the same periods in Figure II-20. For projections of volume scheduled for harvest in decades not displayed in Figures II-19 and II-20, see Table II-24. The conversion ratio of cubic feet to board feet varies with the size of trees harvested. The volumes in decade 1 include a noninterchangeable component because of product and species marketability. This component was added as a result of public comment on the DEIS. A discussion on the noninterchangeable component follows later in this section.

Figure II-21 displays the acres of suitable timberlands by alternative. (A more detailed discussion on timber suitability can be found in Appendix B, Section VIII.)

W54  
Section 13 (a) of NFMA requires the calculation of the sustained yield on individual proclaimed National Forests. A portion of the St. Joe National Forest is administered by the Idaho Panhandle National Forest and is not included in Figures II 19-21. The calculation of long-term sustained yield of the National Forest System Lands administered by the Clearwater is displayed in Appendix B, Section VIII, in the discussion of Alternative K (Preferred Alternative).

FIG II-19 AVERAGE ANNUAL  
TIMBER HARVEST (CUBIC FEET)

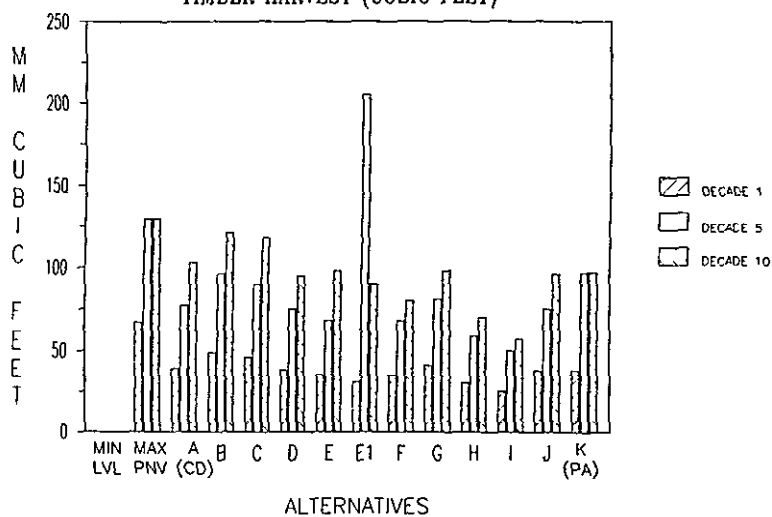


FIG. II-20. AVERAGE ANNUAL  
TIMBER HARVEST (BOARD FEET)

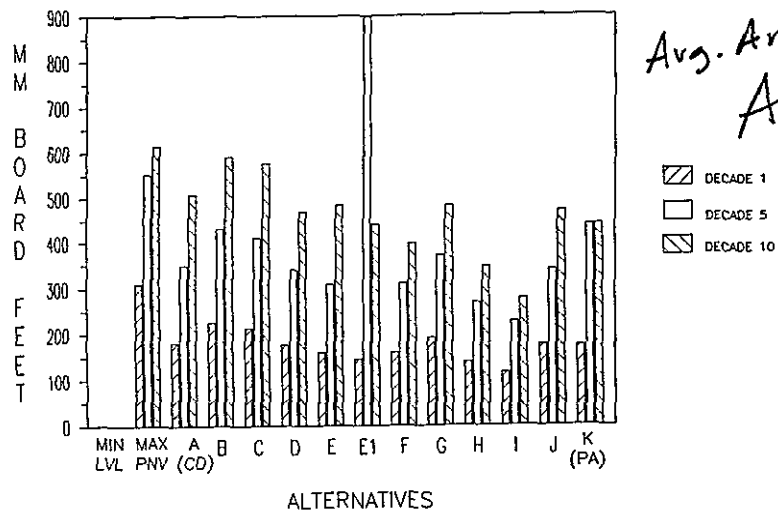


FIG. II-21 SUITABLE TIMBERLAND

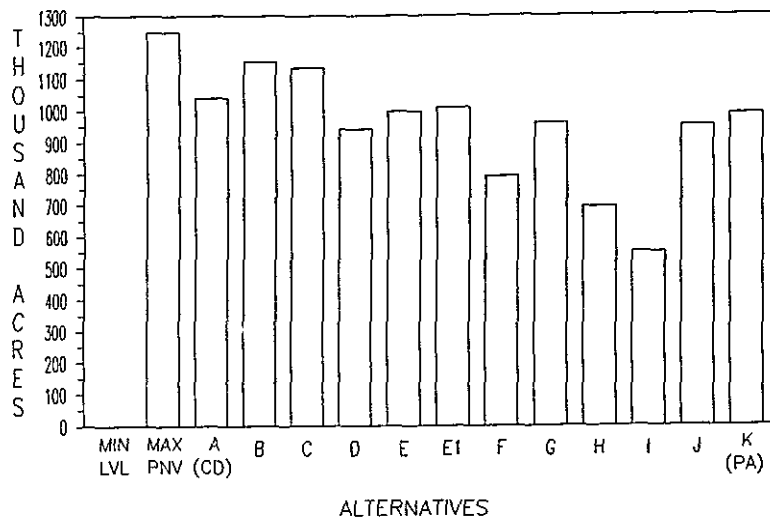


Table II-8 provides timber resource information for each alternative considered in detail in this EIS. Alternatives are ranked in order of decreasing suitable acres.

The suitable acres in column 1 of the table reflect the differences between alternatives in acres assigned to timber prescriptions. The total suitable acres are a function of the constraints applied to the model. All constraints will have some effect in determining the suitable acres. The constraints with major effects on suitable acres are the acres recommended for wilderness, areas to remain unroaded to maintain high/fisheries/water quality, wildlife habitat, and unroaded recreational opportunities, and environmental constraints such as sediment.

Alternative B is designed to produce the maximum amount of market outputs, provide for no additional wilderness or roadless management, and is managed for low fishable, except on the Palouse District where the level is minimum viable. As a result, it ranks highest in the number of suitable acres. Alternative I proposes 950,311 acres for wilderness, the maximum area that can qualify, and is the highest of all alternatives in meeting water quality/fisheries standards. The remaining alternatives range between Alternatives B and I depending on specific objectives for recommended wilderness, roadless management, fisheries, and wildlife objectives.

The beginning inventory (column 2) varies with the suitable acres. Alternatives with less suitable acres have a lower beginning timber inventory. The volume per acre (column 3) varies from 3,095 CF per acre in the Maximum PNV Benchmark to 3,869 CF per acre in Alternative D. The volume per acre tends to be lower in alternatives with less suitable acres. This is because the acres recommended for wilderness or unroaded management with lower per acre volume of standing timber are classified as unsuitable for timber management and therefore are not included in calculating average volume on suitable land.

The ending inventory volumes (column 4) are a reflection of the suitable acres and the rate of harvest over the planning horizon.

Table II-8 The display of first decade allowable sale quantity (ASQ), columns 5 to 7, reflect suitable acres and any harvest floors. Excluding Alternatives E1, G, and K (Preferred Alternative), the ASQ is a function of suitable acres. ASQ Alternative E1, the Departure Alternative, has a low first decade ASQ because nondeclining yield is not a constraint. The first period harvest is reduced and large volumes are harvested in decades 3 to 5 when PNV is greatest. Alternatives G and K (Preferred Alternative) have a floor on the first decade harvest.

TSY The long-term sustained yield (LTSY) displayed in columns 8 through 10 is directly related to suitable acres. As suitable acres decrease, the LTSY decreases. LTSY is met for all alternatives, except the departure, between decade 1, 5, and 8. The rate at which LTSY is dependent on the sequential bounds constraint.

Net growth per acre, columns 11 and 12, is a reflection of the age class distribution and harvest levels. The total net growth in column 13 varies with suitable acres. As suitable acres decrease, total net growth in year 2030 decreases. The exceptions are the Departure Alternative E1 and Alternative K. Preferred Alternative K does not follow the pattern because the suitable base is constrained.

Columns 14 through 19 displays the area and percent of suitable land by yield level. The amount of land in the 50-90 percent yield reflects the amount of uneven-aged management by alternative. The alternatives that emphasize market outputs (Alternatives B and C) have most of their acres in even-aged management. The remaining alternatives, except Alternative K (Preferred Alternative) have approximately the same percent of suitable acres in each yield category. The increase in the acres in the 50-90 percent yield in Preferred Alternative K is a direct result of public comment on the DEIS. Also as a result of public comment, the timber management in the riparian areas in the



Preferred Alternative are represented through uneven-aged management.

The total acres of harvest in the first decade by alternative is provided in columns 20, 21, and 22. The greater the first decade ASQ, the more acres of harvest. The relationship between clearcut and shelterwood harvest is the same for all alternatives. Except for Alternative K (Preferred Alternative) selection makes up a small portion of the first decades harvest. In Alternative K, more acres receive a selection harvest as a result of public comment on the DEIS.

The amount of acres harvested, displayed as a percent of the suitable base, is given in column 25. The Preferred Alternative K has the highest percent of harvest when compared to the suitable base. This is because of the high amount of selection harvest in decade one. The Departure Alternative E1 has the lowest percent of acres harvested compared to the suitable base. The ASQ in decade one is low for this alternative, but because of future harvesting, the suitable acres is high.

In addition to A Report on Idaho's Timber Supply, the Clearwater County Concerned Citizens Group did a study comparing supply to mill capacity in the local area. The results of this study indicate a potential shortfall in the timber supply of 52 MMBF per year. This shortfall is assuming the Clearwater Forest produces 150 MMBF per year in the first decade.

The Clearwater's Preferred Alternative includes 153,561 acres of suitable timber land where costs exceed benefits. This land has been put in the suitable base to meet multiple use objectives and the need for local jobs.

Although it will not be known what the effects of increasing demand for timber might mean for the Forest, it is clear that the land uses prescribed in the Preferred Alternative do allow for an increase in timber supply within the suitable base. However, the Statewide Timber Supply study shows that for the 10-15 year planning period addressed in detail in the study, there is an adequate supply of timber volume in the area served by the Forest.

Table II-8 (Part I)

Timber Resource Management Information  
Clearwater National Forest

Benchmarks/ Alternatives	Suitable Lands	Inventory			1st Decade			Long-Term Sustained Yield			Average Annual Net Growth		
	(M Acres)	Begin	Begin/Ac	End	Average	Annual	ASQ	Decade		Decade	CF/AC	MMCF	
		MMCF	CF	MMCF	MMCF	%	MMBF	MMCF	%	Met	Present	2030	2030
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<b>Benchmarks</b>													
Max Timber	1285	4107	3196	4421	70	1 7	326	133	3 0	5	85	100	128
Max PNW	1248	3863	3095	4308	64	1 7	296	130	3 0	5	79	98	122
<b>Alternatives</b>													
B	1153	3757	3258	4599	46	1 2	214	121	2 6	7	75	96	111
C	1134	3742	3300	4694	44	1 2	202	118	2 5	7	77	96	109
A (cd)	1041	3296	3166	5105	37	1 1	170	103	2 0	7	93	94	99
E1	1008	3485	3457	3806	29	0 8	135	98	2 6	NA	98	79	80
E	997	3272	3282	5096	33	1 0	150	98	1 9	8	89	97	97
K (pa)	988	3198	3237	3609	38	3 8	173	97	2 7	5	66	88	88
G	960	3230	3365	4421	39	4 1	181	98	2 2	7	88	97	93
J	949	3185	3356	4579	36	1 1	167	96	2 1	7	90	96	91
D	941	3641	3869	4525	36	1 0	167	95	2 1	7	90	96	90
F	793	2824	3562	3757	33	1 2	152	80	2 1	6	91	95	75
H	694	2470	3560	3279	28	1 1	132	70	2 1	6	94	91	63
I	548	1883	3436	2334	24	1 3	112	57	2 4	6	85	97	53

Table II-8 (Part II)

Timber Resource Management Information  
Clearwater National Forest

	Area and Percent of Suitable Land by Yield Level						1st Decade Harvest			
	Full Yield		50-90% Yield		Under 50% Yield		Clearcut	Shelterwood/ Seed Tree		Total
	M Acre	%	M Acre	%	M Acre	%		M Acres	M Acres	%
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
<b>Benchmarks</b>										
Max Timber	1285	0	0	0	0	0	86	37	0	9.6
Max PNW	1244	100	4	<1	0	0	84	36	4	9.9
<b>Alternatives</b>										
B	1153	100	0	0	0	0	64	27	0	7.9
C	1133	100	1	<1	0	0	59	25	1	7.5
A (cd)	1035	99	6	1	0	0	50	21	0	6.8
E1	933	92	75	8	0	0	38	16	9	6.2
E	923	92	74	8	0	0	45	19	1	6.5
K (pa)	863	87	125	13	0	0	53	23	36	11.3
G	890	93	70	7	0	0	54	23	1	8.1
J	877	92	72	8	0	0	49	21	1	7.5
D	869	92	72	8	0	0	49	21	1	7.6
F	731	92	62	8	0	0	45	19	1	8.2
H	640	92	54	8	0	0	39	17	1	8.2
I	520	95	28	5	0	0	33	14	1	8.8

## Data from previous Timber Management Plan

- 1) Potential yield - 255 MMBF
- 2) Average annual volume sold (1976-86) - 140 MMBF
- 3) Total acres of commercial forest land (includes standard, special, marginal, and unregulated)  
- 1366 M acres

During the review of the DEIS, it was brought out that a part of wood products available for harvest on the Forest was not included in the calculation of the allowable sale quantity (ASQ). Included in this category is live and dead timber that is currently unmarketable.

Some volume of this type of wood will be available for harvest in the first decade under all alternatives. The amount is a function of the total acres scheduled for harvest during the first decade and the acres of accessible suitable lands. The amount of the regular sawtimber component of the ASQ, the potential addition of the noninterchangeable component, and total potential ASQ for each alternative is shown in Table II-9.

Table II-9

Allowable Sale Quantity Components in MMBF/Year (Decade 1)

	<u>Alternatives/Benchmarks</u>												
	MAX PNV	A (cd)	B	C	D	E	E1	F	G	H	I	J	K (pa)
Sawtimber	296 5	170 4	213 6	201 6	166 6	149 5	135 3	151 6	181 2	131 8	111 9	166 6	163 3
Non- Interchangeable	12 6	10 5	11 7	11 5	9 5	10 0	10 2	8 0	9 7	7 0	5 5	9 6	10 0
Total ASQ	309 1	180 9	225 3	213 1	176 1	159 5	145 5	159 6	190 9	138 8	117 4	176 2	173 3

The additional component of ASQ described above would be a noninterchangeable component of the total ASQ; it could not be interchanged or substituted with any volume in the regular sawtimber component.

#### b. Timber Supply and Demand

In response to timber industry concerns, the Forest Service completed a study of various timber supply scenarios for the State of Idaho based on ownership categories. This study is documented in A Report on Idaho's Timber Supply. Included in these supply scenarios were the harvest levels of the draft preferred alternatives of National Forests within the State of Idaho. The major findings of this study for northern Idaho indicated that the timber supply is adequate for the next ten years (1988-1997). This is based on the planned harvest levels of the Preferred Alternatives from the three Northern Idaho National Forests (Idaho Panhandle, Clearwater, and Nez Perce) and the continuation of the historic harvest level of the other timber ownerships. Depending on corporate objectives and policies, the harvest levels from private industrial lands may begin to decline during this period, but planned harvest levels from National Forests and harvest levels of other ownerships can offset this decline.

A supply and demand analysis for the Clearwater National Forest was completed using information developed from A Report on Idaho's Timber Supply study and demand projections based on work done for the 1980 Resource Planning Act assessment (Adams and Haynes, 1980).

A range of potential demand for the Clearwater National Forest timber was developed from this State wide study by comparing the expected quantity supplied and demanded with a range of possible future harvests from other ownerships. This range of potential demands was then compared directly with planned harvest levels of the DEIS's Proposed Action. The Idaho Timber Supply study was subdivided into two marketing areas. The Clearwater National Forest is in the northern Idaho sub-state region. The range of potential demand for the northern Idaho area and a range of possible supplies from other owners is shown below:

Table II-10. Range of Potential Demand and Range of Supplies (MMBF/Year)

Years:	Planned	Projected			
	1988 to 1997	1998 to 2007	2008 to 2017	2018 to 2027	2028 to 2037
North Idaho Range of Potential Demand (MMBF)	1215- 1284	1232- 1476	1241- 1550	1362- 1566	1550- 1572
Range of Potential Supply from Other Owners (MMBF)	776- 834	607- 662	564- 680	542- 576	532- 562

From the above information, an implied range of potential demand for National Forest timber in northern Idaho can be obtained and is shown in Table II-11:

Table II-11. Range of Potential Demand (MMBF/Year)

Years:	Planned	Projected			
	1988 to 1997	1998 to 2007	2008 to 2017	2018 to 2027	2028 to 2037
Range of Potential Nat. Forest Demand (MMBF)	381- 508	570- 869	561- 986	786- 1024	988- 1040

It is significant to note that as regional and national markets imply an increase in the quantity demanded for northern Idaho, other timber ownerships will have a decreasing ability to provide timber, largely due to depleted inventory in industrial ownerships. This would mean that the potential demand on National Forest timber can be expected to increase.

There is no mathematical model at the present which can be used to disaggregate the range of potential demand for northern Idaho to a specific National Forest. Therefore, it is assumed that future demand ranges for each National Forest will be proportional to its market share in northern Idaho. This is based on the total planned harvest levels of the National Forests within this market area. The range of potential demand for the Clearwater National Forest timber using this disaggregation method is shown in Table II-12.

Table II-12. Range of Potential Demand and Forest Plan Harvest Level  
(MMBF/Year)

Years:	Planned	Projected			
	1988 to 1997	1998 to 2007	2008 to 2017	2018 to 2027	2028 to 2037
Range of Potential Demand for Clearwater National Forest (MMBF)	114- 152	155- 237	157- 278	226- 294	324- 341
Clearwater National Forest Plan Harvest Level (MMBF)	173	212	274	356	440

By comparing planned harvest levels from the Clearwater National Forest with the range of potential demand, it can be seen that the planned harvest falls within or above the range of potential demand. For the Plan period, the harvest level is 14 percent above the upper bound in the range of potential demand.

It is important that the information on potential supply and demand be considered only as a reference point. A range of potential demand levels for individual National Forests is dependent on the supply assumptions for other ownerships and adjacent National Forests. Based on these assumptions, the proper interpretation of the demand projections is that they provide a reasonable range, not an absolute floor or ceiling for any specific National Forest. The difference between the upper and lower range of these projections indicates the additional timber that could be reasonably be marketed. This does not preclude the consideration of specific alternatives with an allowable sale quantity (ASQ) in excess of the upper and lower end of the potential demand range at projected price levels.

#### c. Silvicultural Systems

Three silvicultural methods for regeneration harvest of timber are appropriate for the Clearwater National Forest: selection/group selection, clearcutting, and shelterwood.

In most cases, even-aged silviculture (shelterwood and clearcut) will be practiced to achieve the management objectives of the alternatives. Even-aged management provides the closest parallel to natural processes occurring within the Clearwater. Uneven-aged silviculture will be used primarily in riparian areas and areas with highly sensitive visual objectives. Final determination of which silvicultural system will be used for a particular project will be made by a certified silviculturist after an on-the-ground analysis. See Chapter IV for a more detailed discussion of silvicultural system and harvest method.

#### d. Timber Utilization Standards

The Northern Region has identified desirable utilization standards for use by the Region One National Forests. All alternatives reflect revised utilization standards that were prescribed for use in the Northern Regional Guide. A

comparison of current versus Regional Guide utilization standards are listed below:

<u>Standard</u>	<u>Minimum D.B.H.</u>		<u>Minimum top d.i.b.</u>	<u>Minimum Log Length</u>
	<u>Lodgepole</u>	<u>All Other</u>	<u>All</u>	<u>All</u>
	<u>Pine</u>	<u>Species</u>	<u>Species</u>	<u>Species</u>
Current	7"	8"	5.6"	8'
Regional Guide	6"	7"	4.6"	8'

Between the DEIS and FEIS an analysis was done on the volume and economic values impacts of converting from current utilization standards to those in the Northern Regional Guide. The results of this analysis are provided in Table II-13.

Table II-13. Comparison of Timber (MCF and MBF), Present Net Value, and Acres Assigned to Timber Between the Current and Northern Regional Guide Utilization Standards

<u>Item</u>	<u>Current</u> <u>Standards</u>	<u>Proposed</u> <u>Standards</u>	<u>Difference</u>	<u>% Change</u>
<u>Max PNV Benchmark:</u>				
MMCF - 1st decade	61.2	63.8	-2.6	4.1%
MMBF - 1st decade	285.1	296.5	-11.4	3.8%
PNV	1297.1	1320.1	23.0	1.7%
Acres Assigned to Timber (M acres)	1230	1250	20	1.6%
<u>Alternative E:</u>				
MMCF - 1st decade	32.5	32.6	-.1	.3%
MMBF - 1st decade	149.3	149.5	-.2	.1%
PNV	1049.5	1053.7	-4.2	.4%
Acres Assigned to Timber (M acres)	1003	1003	0	0%

The results of this analysis indicate that conversion from current utilization standards to those in the Northern Regional Guide caused only small changes in volume, PNV, and acres assigned to timber.

Alternative E was used in this analysis because the study was done shortly after release of the DEIS prior to the development of the Preferred Alternative K. The results would not change significantly if Alternative K were used.

Table II-14 displays volume species and diameter in decades one and five for the Preferred Alternative K.

II-14 (Part 1) Average Annual Planned Decade 1 and Projected Decade 5  
Volume by Species and Diameter for Alternative K

Decade 1	Total Board Foot Volume (Average Annual MMBF)											
	Species											
CLASS	WP	WL	DF	GF	HE	C	LPP	ES	AF	PP	OTH	ALL
6 9	00	00	00	.00	00	00	00	00	00	00	00	00
7 9	00	00	04	62	00	16	00	.08	11	00	00	1 01
8 9	00	00	06	29	00	00	01	01	14	00	00	51
9 9	00	00	37	1 34	00	22	01	61	39	00	01	2 93
10 9	52	00	06	99	00	00	01	09	48	00	00	2 15
11 9	48	00	20	58	00	00	01	17	76	00	00	2 20
12 9	.45	66	14	1.43	00	.00	01	49	17	00	01	3 36
13 9	90	49	40	1.19	00	00	01	1 66	40	00	00	5 03
14 9	.77	00	43	5 68	.00	06	01	23	26	00	01	7 44
15 9	4.08	53	38	2 69	00	.00	01	90	11	00	01	8 70
16 9	3.65	00	97	2 90	00	07	01	15	01	00	00	7 76
17 9	7 86	00	18	7.78	00	27	00	83	69	00	03	17 65
19 9	7 04	73	2 59	21 10	00	00	.00	1 55	23	00	01	33 26
20 9	1 75	26	1 28	9 00	00	00	00	56	70	00	01	13 55
23 9	4.66	12	2 49	11 99	00	00	00	2 07	32	00	00	21 66
25 9	2 03	10	1 53	15 79	00	00	00	20	12	00	00	19 77
27 9	2 29	00	13	5 48	00	00	00	.53	.67	00	02	9 12
29 9	01	10	1 03	4 45	00	00	00	01	08	00	00	5 68
+	1 63	23	80	6 77	00	1 63	00	31	07	00	02	11 47

1	38 11	3 22	13 09	100 09	00	2.41	09	10 45	5 71	00	13	173 30
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Decade 5

6 9	00	00	00	00	00	00	30	00	00	00	00	30
7 9	43	44	1 44	1 53	00	29	28	34	83	00	00	5 57
8 9	71	02	3 43	1 62	00	04	74	50	76	01	36	8 19
9 9	04	93	7 20	1 60	00	1 43	1 01	77	35	00	00	13 33
10 9	08	1 72	3 31	1 59	00	04	82	10	64	00	00	8 32
11 9	03	54	3 51	56	00	1 38	88	60	1 34	05	01	8 89
12 9	00	80	4 61	5 23	00	00	2 06	1 01	2 41	02	22	16 34
13 9	23	87	7 03	3 68	00	2 47	96	1 11	2 18	01	1 39	19 92
14 9	28	2 45	6 85	4 87	00	23	1 59	73	1 95	12	01	19 07
15 9	19	2 36	10 58	5 27	00	05	99	2 18	1 53	10	04	23 27
16 9	48	1 33	6 70	3 21	00	11	1 66	1 01	1 46	09	18	16 23
17 9	68	1 25	12 04	8 35	00	00	18	1 09	1 92	03	02	25 55
19 9	4 02	2 46	27 35	10 44	00	66	1 37	2 23	3 48	10	15	52 25
20 9	2 64	20	16 05	16 20	00	66	30	4 46	2 42	19	56	43 67
23 9	3 53	1 88	29 66	10 81	00	04	11	4 13	1 33	35	00	51 85
25 9	4 28	2 15	15 39	12 74	00	46	00	2 82	1 91	10	02	39 85
27 9	1 32	00	14 78	5 17	00	00	00	1 60	34	03	02	23 25
29 9	1 05	02	9 32	4 82	00	75	00	22	64	00	00	16 83
+	7 05	83	10 22	21 09	00	3 84	00	2 91	1 43	00	25	47 60

1	27 05	20 26	189 47	118 77	00	12 43	13 23	27 84	26 94	1.20	3 23	440 40
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Table II-14 (Part II)

Average Annual Planned Decade 1 and Projected Decade 5  
Volume by Species and Diameter for Alternative KDecade 1Total Cubic Foot Volume (Ave Annual MMCF)

DBH CLASS	<u>Species</u>											ALL
	WP	WL	DF	GF	HE	C	LPP	ES	AF	PP	OTH	
6 0-6 9	00	00	00	00	00	00	00	00	00	00	00	00
7 0-7 9	.00	00	02	20	00	.04	00	02	03	00	00	31
8 0-8 9	00	00	02	09	00	00	00	00	04	00	00	16
9 0-9 9	00	00	12	41	00	07	00	15	11	00	00	86
10 0-10 9	14	00	02	29	00	00	00	02	13	00	00	60
11 0-11 9	13	00	06	17	00	00	00	04	19	00	00	59
12 0-12 9	12	17	04	36	00	00	00	10	04	00	00	83
13 0-13 9	22	.11	11	27	00	00	00	33	10	00	00	1 14
14 0-14 9	18	00	11	1 28	00	02	00	04	06	00	00	1 70
15 0-15 9	94	12	09	60	00	00	00	17	03	00	00	1 95
16 0-16 9	83	00	22	63	00	02	00	03	00	00	00	1 73
17 0-17 9	1 77	00	04	1 66	00	08	00	15	15	00	01	3 85
18 0-19 9	1 57	16	57	4 43	00	00	00	.28	05	00	00	7 06
20 0-20 9	39	05	27	1 86	00	00	00	10	14	00	00	2 81
22 0-23 9	1 05	03	52	2 51	00	00	00	37	07	00	00	4 53
24 0-25 9	46	02	32	3 34	00	00	00	04	03	00	00	4 19
26 0-27 9	52	00	03	1 16	00	00	00	09	16	00	00	1 97
28 0-29 9	00	02	21	95	00	00	00	00	02	00	00	1 20
30 0 +	37	05	16	1 46	00	47	00	05	02	00	00	2 58
TOTAL	8 68	73	2 92	21 67	00	69	.02	2 00	1 36	00	03	38 10

Decade 5

6.0-6.9	00	00	.00	.00	00	00	.11	.00	.00	00	00	11
7 0-7 9	12	12	53	50	00	09	09	10	27	00	00	1 81
8 0-8 9	19	01	1 12	50	00	01	22	14	21	00	11	2 50
9 0-9 9	01	24	2 18	48	00	42	27	19	09	00	00	3 88
10 0-10 9	02	44	96	46	00	01	21	02	16	00	00	2 28
11 0-11 9	01	14	98	14	00	38	22	13	33	02	00	2 33
12 0-12 9	00	20	1 26	1 31	00	00	50	20	57	01	06	4 09
13 0-13 9	06	21	1 88	86	00	67	23	.21	51	00	36	5 00
14 0-14 9	06	58	1 74	1 08	00	06	38	14	45	03	00	4 51
15 0-15 9	04	52	2 49	1 14	00	01	23	40	32	03	01	5 18
16 0-16 9	11	29	1 51	68	00	03	38	18	30	02	04	3 52
17 0-17 9	15	26	2 66	1 74	.00	00	04	19	39	01	00	5 45
18 0-19 9	86	51	5 85	2 13	00	17	30	39	69	02	03	10 95
20 0-20 9	57	04	3 24	3 20	00	17	07	76	48	05	11	8 67
22 0-23 9	76	37	5 87	2 16	00	01	.03	70	28	09	00	10 26
24 0-25 9	93	43	3 05	2 58	00	12	00	48	41	02	00	8 02
26 0-27 9	29	00	2 91	1 05	00	00	00	27	08	01	00	4 60
28 0-29 9	23	00	1 83	99	00	21	00	04	15	00	00	3 43
30 0 +	1 52	18	2 00	4 37	00	1 06	00	49	35	00	05	10 01
TOTAL	5 92	4 54	42 05	25 38	00	3 43	3 30	5 03	6 04	32	78	96 78

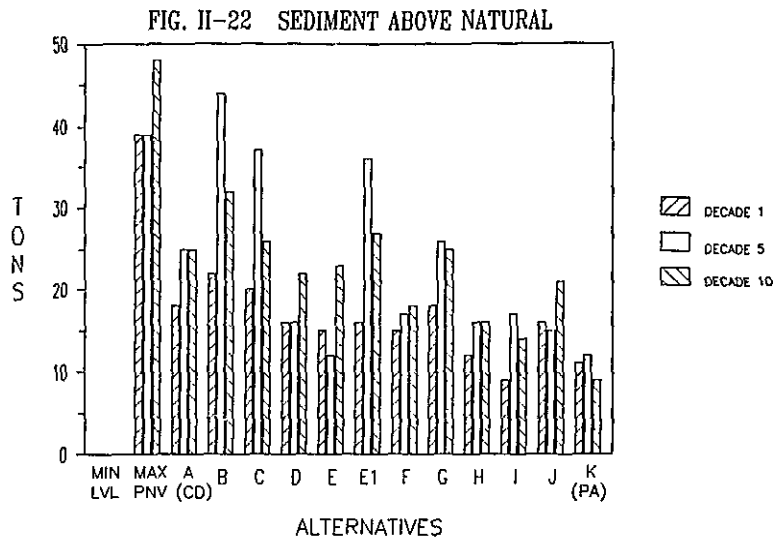
## 10. Watershed

Sediment production can be generated both by increased water yields and ground disturbances.

The principal activity resulting in increased water yields from the Clearwater National Forest lands is timber harvest. Other activities that contribute to increased water yield are the clearing associated with road construction, mineral exploration and development, grazing, and slash disposal and site preparation for regeneration following timber harvest.

Ground disturbance increases the risk of increased sediment. Ground-disturbing activities include road construction, mineral exploration and development, timber harvest and the associated slash disposal and site preparation, and grazing, especially in riparian zones. The actual risk of increased sediment yield will vary depending on the amount of soil disturbance, the type of treatment, soil material, and various other physical and biological factors. As roads stabilize and disturbed sites revegetate, sediment production decreases.

Figure II-22 displays the amounts of sediment production that is expected to occur from ground disturbing activities.

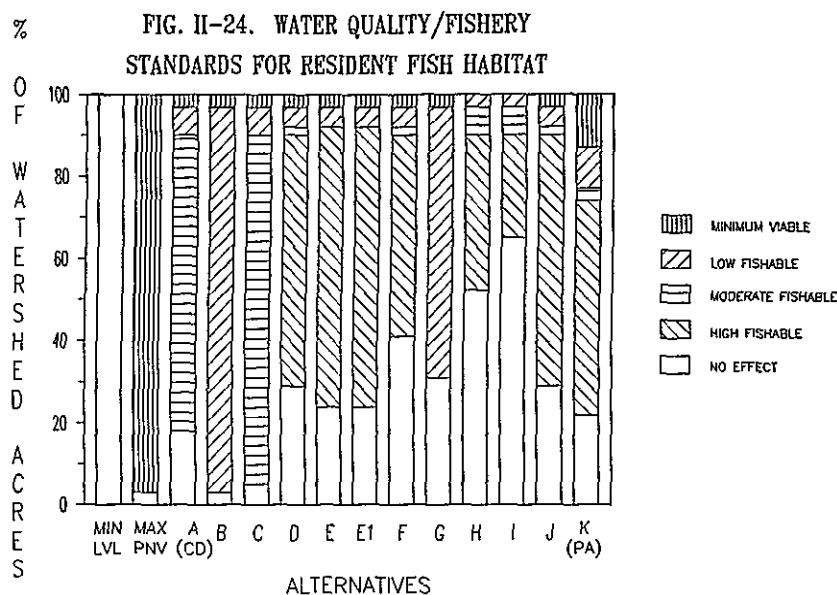
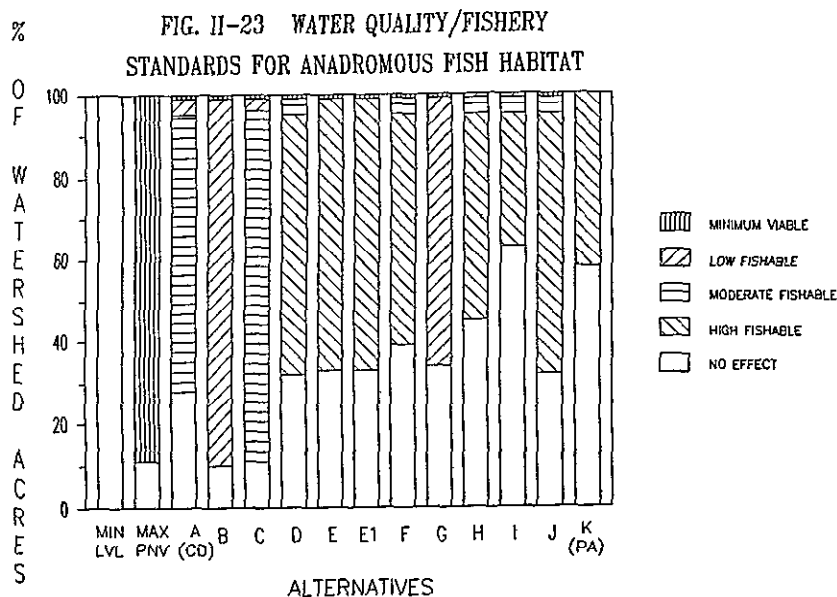


Management practices will be used in all alternatives to carry out these activities to assure that they will accomplish Forest Plan goals, one of which is to meet and/or exceed State water quality standards. These practices are referred to as best management practices.

Due to their higher sediment production potentials, it would be most costly to meet Forest water quality goals for Alternatives B and C; there also would be a greater risk that water quality might be impacted in spite of application of best management practices.

The effects of sediment production on water will be evaluated during project development to ensure meeting Forest water quality goals. Projects that will not meet State and Forest water quality standards will be redesigned, rescheduled, or eliminated. See Chapter IV, page IV-86 to IV-90, for a more complete discussion of adverse effects of sedimentation and proposed mitigation.

Figure II-23 shows the percent of watershed acres that meets the water quality standards for anadromous fish. Figure II-24 shows the same for the resident fisheries.



## 11. Minerals

The potential for locatable minerals (hard rock) and leasable energy (oil, gas, and geothermal) has been evaluated. Forest lands were placed in four categories:

- 1) Category A: Withdrawn or proposed for withdrawals from mineral entry.
- 2) Category B: Statutes or executive orders requiring specific protection or mitigation measures.
- 3) Category C: Special conditions on winter game range or other lands requiring special lease stipulations or plan of operative conditions.
- 4) Category D: Standard lease stipulations and plan of operative conditions apply.

The available land area for mineral entry, for which these categories applied, change by alternatives. (See Table II-24 at the end of this chapter.) The mineral access is greatest when road systems are complete. Road systems in all alternatives are complete after decade 10. The area that will be roaded varies by alternative as shown in Figure II-12. About 13 percent of the Forest is now classified wilderness where no further mineral entry is allowed.

## 12. Road System

First decade planned road miles, fifth decade cumulative projected road miles, and projected total road construction needs are given in Table II-15. There are now approximately 4,275 miles of road on the Forest's transportation inventory system. Alternatives B and C, which produce the highest amounts of timber, require over 6000 miles of new road construction. (See Table II-15.) Most arterial and collector roads will be constructed within existing roadless areas designated for timber management and will be completed by the fourth decade. Between 80 to 90 percent of roadless areas will be accessed by the end of the seventh decade. Essentially all new road construction would be completed by the end of the twelfth decade in all alternatives. For a more complete discussion of environmental consequences of road construction, see Chapter IV.

Table II-15. First Decade, Fifth Decade Cumulative, and Total Road Construction (miles)

	MIN LVL	MAX PNV	Alternatives/Benchmarks											
			A (cd)	B	C	D	E	E1	F	G	H	I	J	K (pa)
Decade 1	0	1190	620	690	640	620	620	610	550	610	430	290	620	690
Decade 5	0	5610	3330	3900	3630	2900	2780	3930	2620	3100	2140	1450	2880	2720
Cumulative														
Total	0	6890	5670	6310	6050	4880	4880	5240	4060	5090	3490	2350	4920	4463

### 13. Fire Management

Fire management does not change by alternative, except in the amount of wilderness versus nonwilderness.

In existing and recommended wilderness some fires may be monitored but allowed to burn. All person caused fires will be suppressed. Fires that may result in danger to the public or cause unacceptable damage will be controlled.

Nonwilderness will be evaluated when fire occurs to determine the appropriate suppression response.

See Chapter IV for a more detailed discussion on fire management.

### 14. Issues Considered in Alternatives

The alternatives were designed to respond in various ways to the 15 major issues and concerns. A summary of how each alternative responds to each issue is displayed in Table II-16.

Table II-16.

## Responsiveness of Alternatives to Issues, Concerns, and Opportunities

Alternatives	A (c.d.)	B	C	D
<u>IC0</u>				
1. Manage visual resource on suitable timberland	58 M acres-Retention 96 M acres-Partial Ret. 724 M acres-Modification 161 M acres-Max. Mod.	0-Retention 80 M acres-Partial Ret. 876 M acres-Modification 197 M acres-Max. Mod.	300 acres-Retention 77 M acres-Partial Ret. 864 M acres-Modification 193 M acres-Max. Mod.	41 M acres-Retention 118 M acres-Partial Ret. 659 M acres-Modification 122 M acres-Max. Mod.
2. Manage for arch. and historic resources	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.
3. Establish additional special areas	Lochsa -1,281 acres	Lochsa -1,281 acres	Lochsa - 1,281 Proposed - 3,886 Total 5,167	Lochsa - 1,281 Proposed - 4,651 Total 5,932
4. Classification and management of wilderness.	Existing - 259,165 Proposed - 190,354 Total 449,519	Existing - 259,165 Proposed - 0 Total 259,165	Existing - 259,165 Proposed - 45,471 Total 304,636	Existing - 259,165 Proposed - 130,430 Total 389,595
4a. Management of unroaded areas.	A3 - 46,126 C6 - 46,600 Total 92,726	NONE	A3 - 70,685 Total 70,685	A3 - 201,320 C1 - 61,557 C6 - 30,360 Total 293,237
5. Identify candidates for Wild & Scenic River status	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.
6 & 7. Manage winter and summer range	Winter - 16,500 Summer - No minimum	Winter - No minimum Summer - No minimum	Winter - No minimum Summer - No minimum	Winter - 18,700 Summer - 21,250
8. Timber supply demand	Decade 1 180.9 MMEF/Yr. Decade 15 519.1 MMEF/Yr.	Decade 1 225.3 MMEF/Yr. Decade 15 601.5 MMEF/Yr.	Decade 1 213.1 MMEF/Yr. Decade 15 592.6 MMEF/Yr.	Decade 1 176.1 MMEF/Yr. Decade 15 477.8 MMEF/Yr.
9. Suitable and unsuitable lands	Suitable: 1041 M acres Unsuitable: 796 M acres	Suitable: 1153 M acres Unsuitable: 684 M acres	Suitable: 1134 M acres Unsuitable: 703 M acres	Suitable: 941 M acres Unsuitable: 896 M acres
10. Silvicultural systems (decade 1)	Selection: 0 Shelterwood: 2 M acres Clearcutting: 5 M acres	Selection: 0 Shelterwood: 3 M acres Clearcutting: 6 M acres	Selection: .1 M acres Shelterwood: 2 M acres Clearcutting: 6 M acres	Selection: .1 M acres Shelterwood: 2 M acres Clearcutting: 5 M acres
11. Below-cost timber sales	Will be decided through projects	Will be decided through projects	Will be decided through projects	Will be decided through projects
12. Manage watersheds and fish habitat.	Mod Fish except Min Viable D2, Low Fish roaded D1.	Low Fish except Min Viable D2.	Mod Fish except Min Viable D2, Low Fish roaded D1.	High Fish except Min Viable D2, Mod Fish Lolo Cr., Low Fish roaded D1.
13. Manage riparian areas.	Will be decided through project level.	Will be decided through project level.	Will be decided through project level.	Will be decided through project level
14. Road system development.	Decade 1 62 Mi./Yr. Decade 10 20 Mi./Yr.	Decade 1 69 Mi./Yr. Decade 10 18 Mi./Yr.	Decade 1 64 Mi./Yr. Decade 10 19 Mi./Yr.	Decade 1 62 Mi./Yr. Decade 10 17 Mi./Yr.
15. Consider an energy corridor	Might be possible after a study is conducted.	Might be possible after a study is conducted.	Might be possible after a study is conducted.	Might be possible after a study is conducted.

(Table II-16 cont.)

## Responsiveness of Alternatives to Issues, Opportunities, and Concerns

Alternatives	E	E1	F	G
<b>100</b>				
1. Manage visual resource on suitable timberland	42 M acres-Retention 143 M acres-Partial Ret. 701 M acres-Modification 109 M acres-Max. Mod.	42 M acres-Retention 144 M acres-Partial Ret. 710 M acres-Modification 109 M acres-Max. Mod.	48 M acres-Retention 87 M acres-Partial Ret. 553 M acres-Modification 104 M acres-Max. Mod.	48 M acres-Retention 87 M acres-Partial Ret. 675 M acres-Modification 150 M acres-Max. Mod.
2. Manage for arch. and historic resources	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.
3. Establish additional special areas.	Lochsa - 1,281 Proposed - 4,651 Total 5,932	Lochsa - 1,281 Proposed - 4,651 Total 5,932	Lochsa - 1,281 Proposed - 7,651 Total 8,932	Lochsa - 1,281 Proposed - 3,986 Total 5,267
4. Classification and management of wilderness.	Existing - 259,165 Proposed - 188,871 Total 448,036	Existing - 259,165 Proposed - 188,871 Total 448,036	Existing - 259,165 Proposed - 297,248 Total 556,413	Existing - 259,165 Proposed - 453,997 Total 713,162
4a. Management of unroaded areas.	A3 - 73,648 C1 - 45,120 C6 - 69,700 Total 188,468	A3 - 73,648 C1 - 45,120 C6 - 69,700 Total 188,468	A3 - 88,514 C1 - 142,680 C6 - 59,280 Total 290,474	None
5. Identify candidates for Wild & Scenic River status	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.- 19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.
6 & 7. Manage winter and summer range	Winter - 18,700 Summer - 21,250	Winter - 18,700 Summer - 21,250	Winter - 20,900 Summer - 23,750	Winter - No minimum Summer - No minimum
8. Timber supply	Decade 1 159.5 MMEF/Yr. Decade 15 494.8 MMEF/Yr.	Decade 1 145.5 MMEF/Yr. Decade 15 376.3 MMEF/Yr.	Decade 1 159.6 MMEF/Yr. Decade 15 400.5 MMEF/Yr.	Decade 1 190.9 MMEF/Yr. Decade 15 490.4 MMEF/Yr.
9. Suitable and unsuitable lands	Suitable: 997 M acres Unsuitable: 840 M acres	Suitable: 1008 M acres Unsuitable: 829 M acres	Suitable: 793 M acres Unsuitable: 1044 M acres	Suitable: 960 M acres Unsuitable: 878 M acres
10. Silvicultural systems (decade 1)	Selection: .1 M acres Shelterwood: 2 M acres Clearcutting: 5 M acres	Selection: .1 M acres Shelterwood: 2 M acres Clearcutting: 4 M acres	Selection: .9 M acres Shelterwood: 2 M acres Clearcutting: 5 M acres	Selection: .1 M acres Shelterwood: 2 M acres Clearcutting: 5 M acres
11. Below-cost timber sales	Will be decided through projects	Will be decided through projects	Will be decided through projects	Will be decided through projects
12. Manage watersheds and fish habitat	High Fish including Lolo & Elk Cr except Low Fish D1 roaded & Min Viable D2.	High Fish including Lolo & Elk Cr except Low Fish D1 roaded & Min Viable D2.	High Fish except Min Viable D2, Mod Fish Lolo Cr., Low Fish roaded D1.	Low Fish except Min Viable D2.
13. Manage riparian areas.	Will be decided through project level.	Will be decided through project level.	Will be decided through project level.	Will be decided through project level
14. Road system development.	Decade 1 62 Mi./Yr. Decade 10 15 Mi./Yr.	Decade 1 61 Mi./Yr. Decade 10 12 Mi./Yr.	Decade 1 55 Mi./Yr. Decade 10 13 Mi./Yr.	Decade 1 61 Mi./Yr. Decade 10 18 Mi./Yr.
15. Consider an energy corridor	Might be possible after a study is conducted.	Might be possible after a study is conducted.	Might be possible after a study is conducted.	Might be possible after a study is conducted.

(Table II-16 cont.)

## Responsiveness of Alternatives to Issues, Concerns, and Opportunities

Alternatives	H	I	J	K (p.a.)
<b>ICC</b>				
1. Manage visual resource on suitable timberland	28 M acres-Retention - 94 M acres-Partial Retent. 457 M acres-Modification 87 M acres-Max. Mod.	13 M acres-Retention 52 M acres-Partial Retent. 395 M acres-Modification 88 M acres-Max. Mod.	41 M acres-Retention 124 M acres-Partial Ret. 666 M acres-Modification 118 M acres-Max. Mod.	36 M acres-Retention 146 M acres-Partial Retent. 694 M acres-Modification 111 M acres-Max. Mod.
2. Manage for arch. and historic resources	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.	No restrictions. Will meet legal requirements.
3. Establish additional special areas.	Lochsa - 1,281 Proposed - 7,651 Total 8,932	Lochsa - 1,281 Proposed - 7,651 Total 8,932	Lochsa - 1,281 Proposed - 4,651 Total 5,932	Lochsa - 1,281 Proposed - 7,011 Total 8,292
4. Classification and management of wilderness.	Existing - 259,165 Proposed - 715,523 Total 974,688	Existing - 259,165 Proposed - 950,311 Total 1,209,476	Existing - 259,165 Proposed - 258,289 Total 517,454	Existing - 259,165 Proposed - 198,200 Total 457,365
4a. Management of roadless areas.	C1 - 14,383 Total 14,383	None	A3 - 73,545 C1 - 65,015 C6 - 30,360 Total 168,920	A3 - 78,800 C1 - 45,100 C6 - 102,440 Total 226,340 *
5. Identify candidates for Wild & Scenic River Status	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.	Kelly Cr.-19 miles for Wild & 12 miles for Rec. Cayuse Cr.-39 miles for Scenic. NF of Clearwater River-60 miles for Scenic.
6 & 7 Manage winter and summer range	Winter - 16,500 Summer - 18,750	Winter - 13,750 Summer - 15,625	Winter - 18,700 Summer - 21,250	Winter - No minimum Summer - No minimum
8. Timber supply demand	Decade 1 138.8 MMEF/Yr. Decade 15 352.0 MMEF/Yr.	Decade 1 117.4 MMEF/Yr. Decade 15 281.9 MMEF/Yr.	Decade 1 176.2 MMEF/Yr. Decade 15 480.6 MMEF/Yr.	Decade 1 173.3 MMEF/Yr. Decade 15 440.3 MMEF/Yr.
9. Suitable and unsuitable lands	Suitable: 694 M acres Unsuitable: 1143 M acres	Suitable: 548 M acres Unsuitable: 1290 M acres	Suitable: 949 M acres Unsuitable: 888 M acres	Suitable: 988 M acres Unsuitable: 849 M acres
10. Silvicultural Systems (decade 1)	Selection: .1 M acres Shelterwood: 2 M acres Clearcutting: 4 M acres	Selection: .1 M acres Shelterwood: 1 M acres Clearcutting: 3 M acres	Selection: .1 M acres Shelterwood: 2 M acres Clearcutting: 5 M acres	Selection: 4 M acres Shelterwood: 2 M acres Clearcutting: 5 M acres
11. Below-cost timber sales	Will be decided through projects	Will be decided through projects	Will be decided through projects	Will be decided through projects
12. Manage watersheds and fish fish habitat	High Fish except Mod Fish roaded D1, Low Fish D2.	High Fish except Mod Fish roaded D1, Low Fish D2.	High Fish except Min Viable D2, Mod Fish Lolo Cr., Low Fish roaded D1.	High Fish including Lolo Cr. & Elk Cr except Low Fish D1 roaded & Min Viable D2.
13. Manage riparian areas.	Will be decided through project level.	Will be decided through project level.	Will be decided through project level.	Will be decided through project level
14. Road system development.	Decade 1 43 Mi./Yr. Decade 10 17 Mi./Yr.	Decade 1 29 Mi./Yr. Decade 10 11 Mi./Yr.	Decade 1 62 Mi./Yr. Decade 10 17 Mi./Yr.	Decade 1 59 Mi./Yr. Decade 10 12 Mi./Yr.
15. Consider an energy corridor	Might be possible after a study is conducted.	Might be possible after a study is conducted.	Might be possible after a study is conducted.	Might be possible after a study is conducted.

\* Does not include Management Area C3 which totals 15,900 acres and will be managed unroaded along with these management areas for a total of 242,200 acres



Comparisons of each alternative to current direction (Alternative A) for the issue-related outputs are displayed in Figures II-25 through II-35.

FIG. II-25. COMPARE ALTERNATIVE B TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

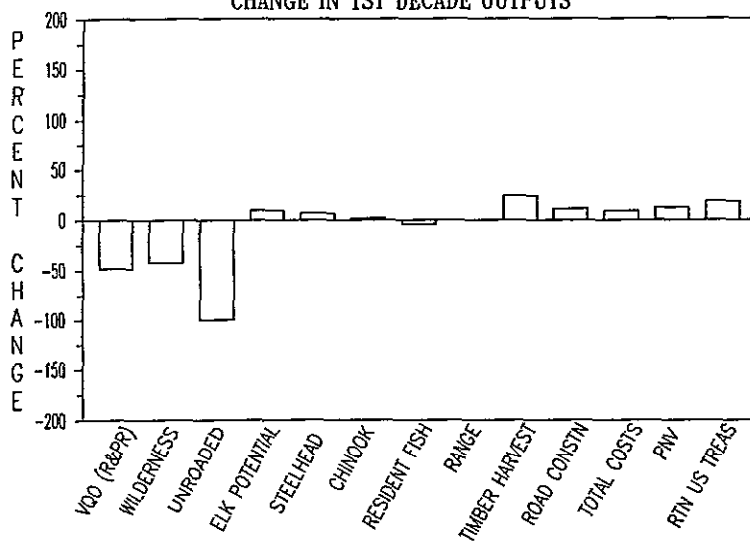


FIG. II-26. COMPARE ALTERNATIVE C TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

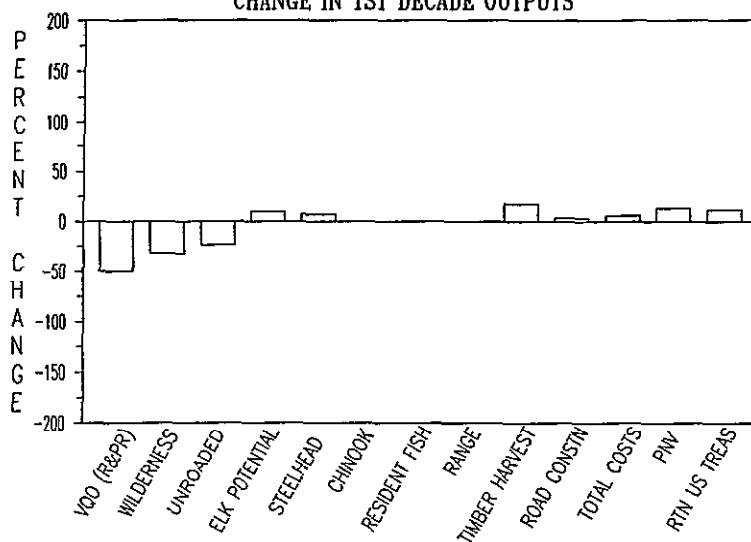


FIG II-27 COMPARE ALTERNATIVE D TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

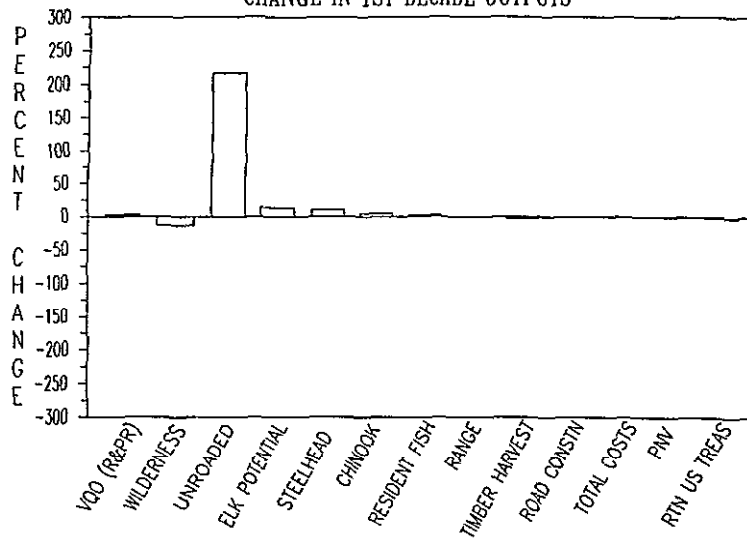


FIG. II-28. COMPARE ALTERNATIVE E TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

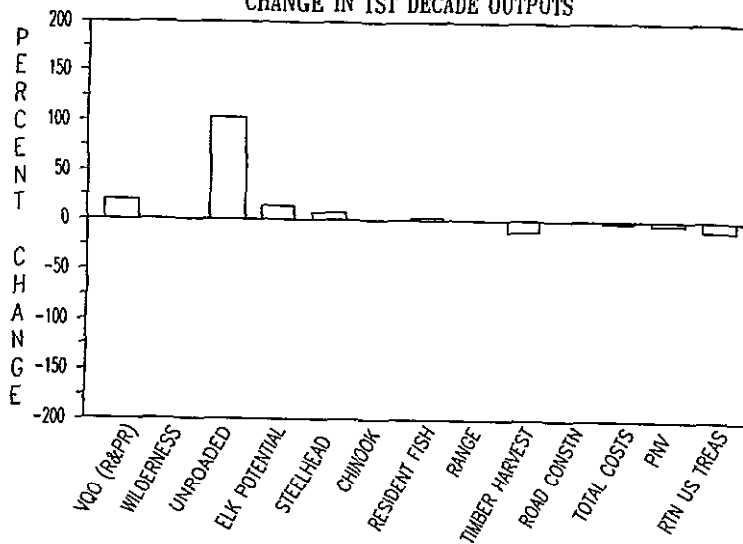


FIG II-29 COMPARE ALTERNATIVE E1 TO A (CURRENT DIRECTION)  
CHANGE IN 1ST DECADE OUTPUTS

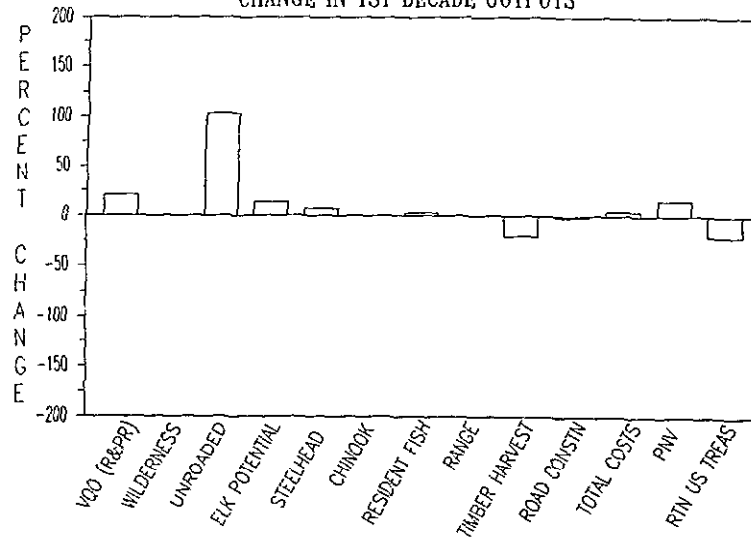


FIG II-30 COMPARE ALTERNATIVE F TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

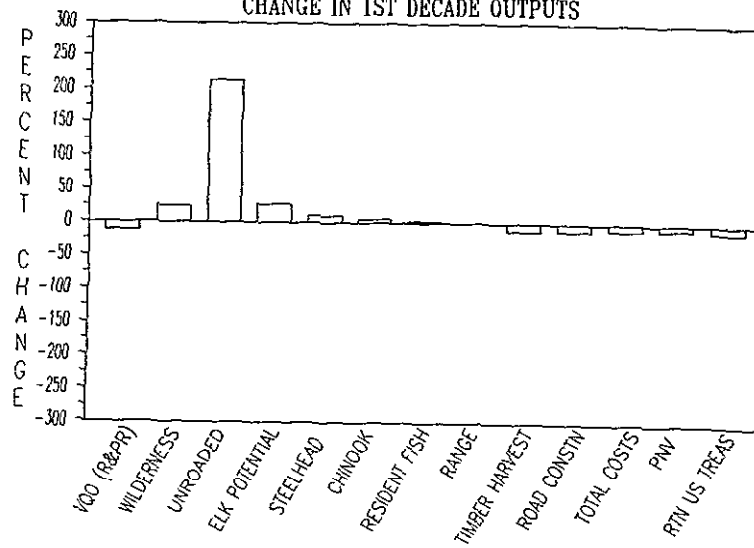


FIG. II-31 COMPARE ALTERNATIVE G TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

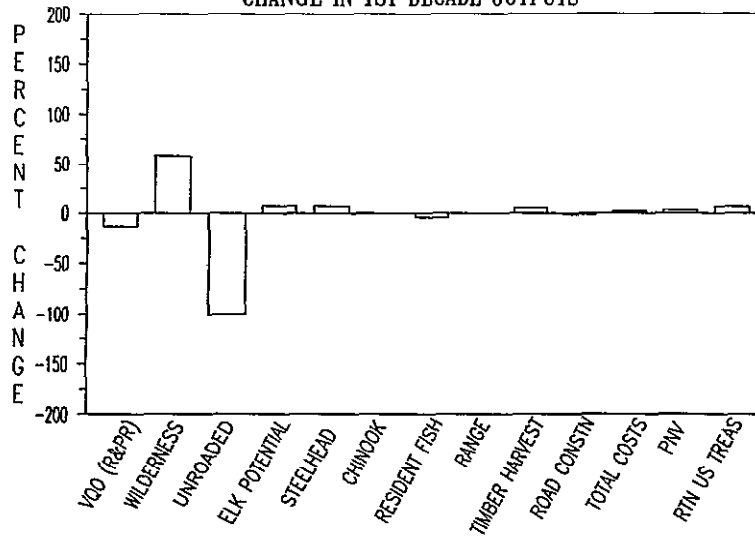


FIG. II-32. COMPARE ALTERNATIVE H TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

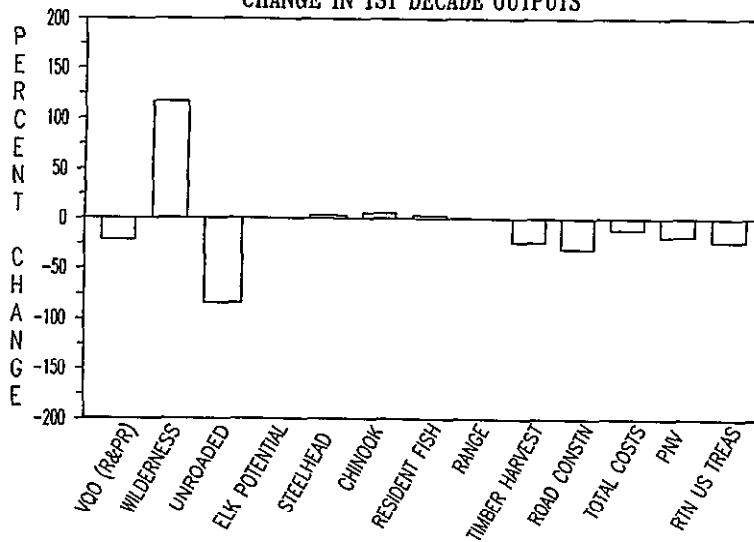


FIG. II-33. COMPARE ALTERNATIVE I TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

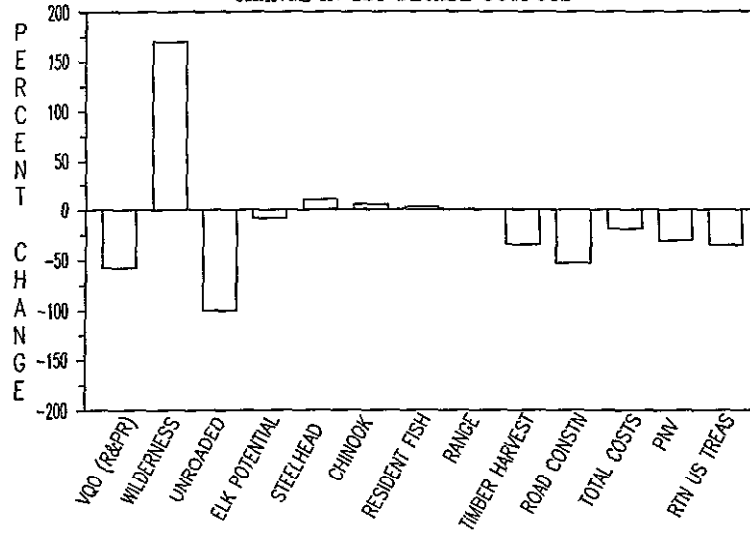


FIG. II-34. COMPARE ALTERNATIVE J TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS

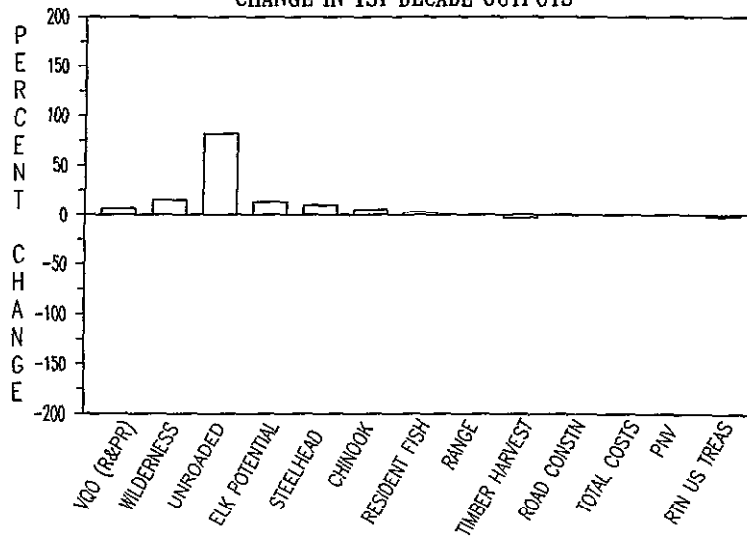
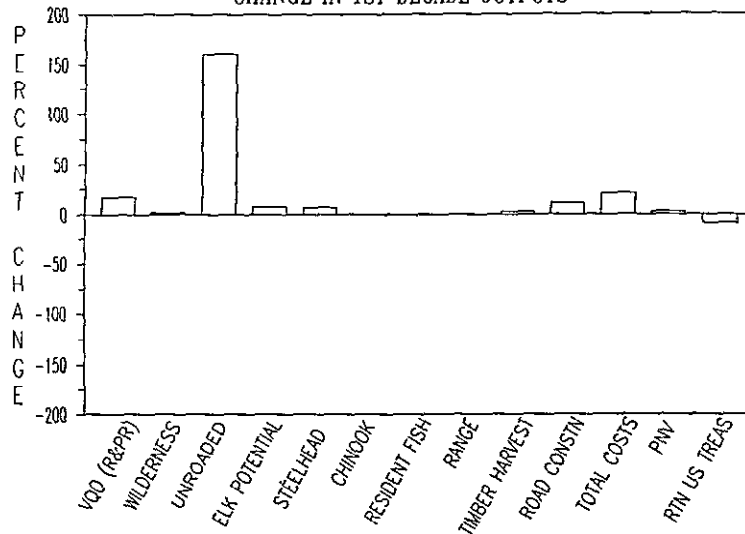


FIG II-35 COMPARE ALTERNATIVE K TO A (CURRENT DIRECTION),  
CHANGE IN 1ST DECADE OUTPUTS



## 15. Community Effects

### a. Employment, Income, and Economic Impacts

#### (1) Effects on the Local Economy

##### (a) Employment and Income in Six-County Area

The outputs produced by the Clearwater National Forest were identified. Once identified, individual unit base runs were made through IMPLAN to determine each output's effect on employment and income. IMPLAN is a linear model, therefore, any per-unit-impact identified by the per-unit-run will be directly related to the number of outputs produced by the Clearwater.

Table II-17 identifies the impact on employment and income per unit of output in the six-county area (consisting of Clearwater, Idaho, Nez Perce, Latah, and Lewis counties in Idaho and Mineral County in Montana).

Economic impacts result from: (1) Forest outputs being sold, (2) users of the Forest purchasing goods and services locally, and (3) the Forest Service purchasing goods and services from the local economy to perform management activities.

IMPLAN breaks the impacts into three categories:

- Direct impacts are the amount of income and number of jobs generated from the production and marketing of outputs and uses of the Forest.
- Indirect impacts result from the activities of supporting industries, i.e., those industries that produce and sell their products to the directly impacted industries.
- Induced impacts are income expenditures by the household sector. All three impact components are included in the response coefficients, thus, total impact can be displayed and analyzed.

Table II-17.

Employment and Income Per Unit Output in  
Six-County Area

<u>Outputs</u>	<u>Units</u>	<u>Jobs/Unit</u>		<u>\$Unit</u>	<u>Income/Job</u>	
		<u>Direct</u>	<u>Total</u>		<u>Direct</u>	<u>Indirect &amp; Induced</u>
SW Sawtimber	MMBF	4.5	11.7	275,735	27,604	21,144
Picnicking	MRVD	.4	.6	8,412	10,793	18,080
Camping	MRVD	.1	.2	2,122	11,368	18,120
Water-Based Rec	MRVD	.3	.4	5,502	9,238	17,969
Disp. Nonmotor Rec	MRVD	.6	1.0	12,316	8,638	17,952
Disp. Motor Rec	MRVD	.7	1.1	12,434	8,055	17,965
Big Game Hunting	MRVD	.9	1.4	19,123	11,848	17,764
Small Game Hunting	MRVD	.4	.6	7,992	11,237	17,943
Nonhunting Wildlife	MRVD	.7	1.1	10,918	6,084	17,995
Fishing	MRVD	.3	.4	5,406	9,402	17,981
Cattle	MAUM	.2	.7	17,300	23,961	21,674
Common Minerals	MTON	.1	.1	1,614	62,427	19,070
NFS Investments	MM\$	.1	.2	2,469	14,281	17,643
NFS Salaries	MM\$	.2	.3	5,561	16,790	18,149

The procedure for converting changes in Forest outputs into local economic impacts consists of the following steps:

- Identify the change in physical outputs.
- Determine the direct impact (dollars per unit of output).
- Distribute the impact to the appropriate industries.
- Adjust the values to constant dollars.

The physical outputs used in the IMPLAN model are timber volumes, wildlife/fish/recreational user days, animal unit months, and Forest Service investment and salaries.

The amount of each output produced is taken from the Forest alternatives.

Table II-17 indicates that per million board feet of timber produced from the

Clearwater National Forest, 4.5 direct jobs are produced with a total of 11.7 direct, indirect, and induced jobs. The \$/unit column in the table represents the total income produced per unit. In the case of sawtimber, the total income produced per million board feet of sawtimber is \$275,735. The direct and indirect/induced income provided per million board feet of sawtimber is \$27,604 and \$21,144 respectively. Examination of the remainder of the table will provide the reader with the number of jobs and income provided by unit of output. This table displays the relative impact on jobs and income of various outputs produced by the Clearwater National Forest.

(b) Effects of Alternatives

The Clearwater National Forest contributes between 10 and 14 percent to the area's employment depending on the alternative. Table II-18 indicates the number of jobs attributable to the Clearwater National Forest by alternative.

Table II-18. Number of Jobs Attributable to Clearwater National Forest Management for Each Alternative (decade 1 - average annual)

Aggregate Section	<u>Alternatives</u>											
	A (cd)	B	C	D	E	E1	F	G	H	I	J	K (pa)
Wood Products	1090	1366	1290	1066	957	866	970	1159	844	716	1066	1110
Trade/Services	1923	2131	2071	1910	1831	1776	1829	1976	1740	1639	1910	1889
Other	368	426	409	364	344	337	333	379	313	283	364	396
Total	3383	3923	3770	3340	3132	2979	3132	3514	2897	2638	3340	3395

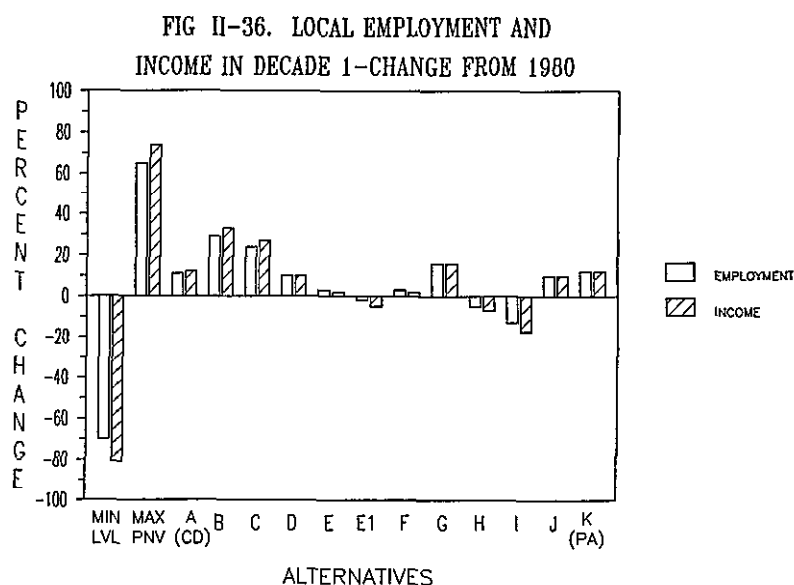
Those alternatives that emphasize market output, such as Alternatives B and C will likely account for the most jobs in the six-county area. The employment in the wood products area is about 35 percent of total employment attributable to the Clearwater for both alternatives, the trade and services sector accounts for about 54 to 55 percent of total employment for Alternatives B and C. This represents approximately a 16 percent increase over Alternative A, the current direction alternative.

Alternatives D, G, J, and K (Preferred Alternative) which are designed to provide market and nonmarket outputs with emphasis on market goods from lands suitable for that purpose, provide approximately the same employment as the current direction alternative. Alternatives D and J provide about 12 percent of the area's employment, the same as Alternative A. Alternatives G and K (Preferred Alternative) increase the portion of area employment attributed to the Clearwater to 13 percent, a slight increase over the current situation.



The remaining alternatives, Alternatives E, E1, F, H, and I, are likely to produce less jobs than the current situation alternative. In addition, the percent of total jobs that come from the wood products sector decreases from 29 to 32 percent, while jobs in the trade and services sector increase from 57 to 60 percent of total jobs attributable to the Clearwater depending on the alternative. This indicates that as the emphasis of the alternatives go from market to nonmarket, the number of jobs decrease and of the jobs attributable to the Clearwater, a larger proportion come from the trade and services sector.

Changes in timber harvest, recreation, livestock grazing, and Forest Service expenditures result in changes in non-Forest Service personal income and employment in the multi-county regional area which includes Idaho, Clearwater, Latah, Lewis, and Nez Perce Counties in Idaho, and Mineral County, Montana. Within this area, Forest activities in 1980 accounted for 3,038 jobs and \$56.6 million in personal income or about 10 percent of total economy. The relative contribution of employment and income to the Regional area by alternative is displayed in Figure II-36. Differences among alternatives in employment and income are primarily due to changes in timber outputs and Forest expenditures. The employment and income values include direct, indirect, and induced effects.

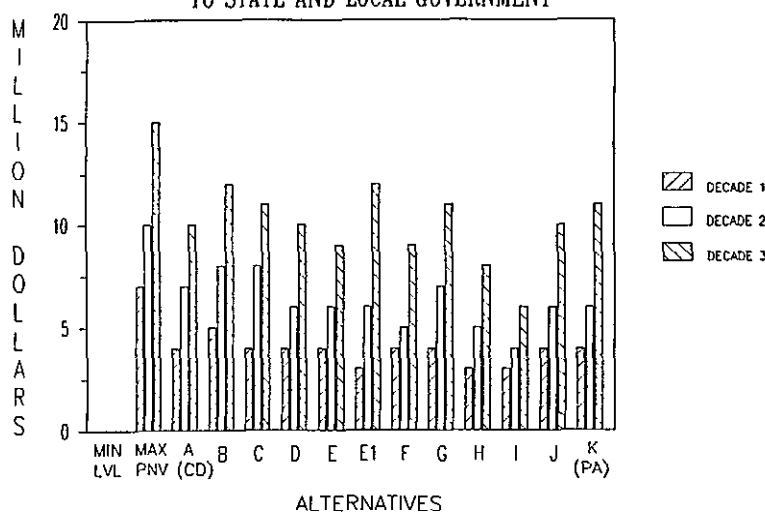


Total employment and income increase in all alternatives after the first decade and in this way all contribute more or less to the economic growth and development of the community. (See Appendix B, Section IV, for more information.)

Market-oriented alternatives usually contain expanded employment and higher income levels in wood products, ranching and minerals, but reduced employment for guides, outfitters and other recreational businesses. In low market alternatives the reverse is true. Income levels for recreation-oriented jobs are lower than for the industry-based jobs. Other alternatives maintain varying levels and mixes of employment opportunities.

Changes in timber harvest and grazing also impact total county income. Recreational receipts change very little because actual RVD use does not vary much between alternatives. Twenty-five percent of the returns to the U.S. Treasury generated primarily from timber receipts are distributed to State and local governments for road and school operations. The annual returns to local governments are displayed in Figure II-37 for decades 1, 3, 5, and also in Table II-24. The distribution of the returns is based on the timber harvest and the area of Forest land in each county; this includes Benewah, Clearwater, Idaho, Lewis, Latah, and Shoshone Counties. Returns to State and local governments in the first decade for all alternatives are higher than the base year (1980) average returns of \$1.6 million.

FIG II-37 AVERAGE ANNUAL RETURNS  
TO STATE AND LOCAL GOVERNMENT



#### b. Social Structures and Lifestyles

While employment and income are important for the quality of life, other social values, such as, maintaining aesthetic qualities or preserving community social ties, are also important. The effects of Forest resource use on these latter activities are less quantifiable than employment or income estimates; however, they are important to the lifestyles of residents in the regional and local areas, as well as at a national level.

Five social variables: economic stability, social stability, community cohesion, lifestyle, and aesthetics, are used to compare the effects generated by Forest outputs and activities (See Appendix B, Section V). Comparisons are made to the current situation (1980), expressed subjectively. Following is a description of what is identified as desirable situation for the social variables:

**Economic Stability** - Maintain or minimally increase present employment levels. Drastic reductions or increases would alter existing business patterns. Applies to the local and regional areas.

Social Stability - In the local area, maintain existing community make-up and cultural ties while promoting slow but steady growth.

Community Cohesion - Promote cohesiveness of local interest groups and organizations with respect to local identification.

Lifestyle - On the local level, provide "traditional" forms of employment (Forest industry, recreation, farming), promote local use of opportunities for Forest recreation and permanence of existing lifestyles.

Aesthetics - Provide opportunities for recreation, cultural enhancement, and appreciation of amenity values at the local and regional levels. Maintain consistency with resource management objectives at the national level.

#### (1) Economic Stability

Economic stability is most closely associated with the local area (Latah, Clearwater, and Idaho Counties) and is primarily affected by varying degrees of timber harvest among alternatives. In general, alternatives which gradually increase timber harvest (A [current direction], D, E, E1, F, G, H, I, J, and K [Preferred Alternative]) would best fulfill this variable. Alternatives B and C would result in additional Forest related employment and income at a more rapid rate than the other alternatives.

#### (2) Social Stability

Social stability is directly applicable in the local area only. Those alternatives which do not create drastic fluctuations in employment or population, but promote limited growth, best maintain social stability. Alternatives A (current direction), D, E, E1, F, G, H, I, J, and K (Preferred Alternative) would maintain a desirable level. Alternatives B and C would cause substantial growth in employment and population.

#### (3) Community Cohesion

Community cohesion is maintained or enhanced when local interest groups and/or organizations remain intact. This situation will occur as long as there are no large shifts in population or employment. Alternatives A (current direction), D, E, E1, F, G, H, I, J, and K (Preferred Alternative) would achieve this objective. The remaining alternatives would cause a shift in both population and employment.

#### (4) Lifestyle

Traditional qualities of life, such as, individuality, freedom, and permanence, are important values to local residents as well as at the regional and national level. It is assumed that all the alternatives will have only a minor effect on lifestyle, and in most case will help to reinforce these characteristics.

#### (5) Aesthetics

"Feeling of attachment" characterize this variable with regard to the perception of local individuals and their attitudes. Many people consider amenity values

(preservation of undeveloped areas, clean air, clean water) as the most important issues, while others maintain that use of the Forest for timber harvest, grazing, firewood gathering, hunting, etc., are more important issues. In addition, this variable can be measured on the regional and national levels since many of these same values are important to the surrounding communities and nation as well.

All alternatives fulfill this variable, primarily because it means different things to different people. Alternatives A (current direction), D, E, E1, F, G, H, I, J, and K (Preferred Alternative) will provide a mix of market and amenity values. Alternatives B and C will emphasize market values.

#### 16. Net Public Benefits and Nonpriced Benefits Addressed in the Alternatives

The purpose of the Forest planning process is to provide goods and services in an environmentally sound manner so that the public receives the maximum net benefit. Net public benefits are an expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index.

##### Benefits

Providing benefits from the National Forests is a primary goal of multiple use and sustained yield management. The "benefits" portion of the net public benefit definition includes outputs and positive effects. (Effects are discussed later as a separate component of net public benefit.) A major part of determining "benefits" is deciding which outputs have prices or dollar values. This has a significant bearing on the cost-efficiency analysis which is discussed later.

The following categories of benefits are used in Forest planning:

-Priced--Benefits which are or could be sold in the market place. This includes:

Market. Outputs which are routinely traded in an established market and return dollars to the U.S. Treasury. These outputs are timber, camping at developed campgrounds, and U.S.-owned minerals.

Nonmarket. Outputs which are not customarily sold in an established local market and, therefore, do not return dollars to the U.S. Treasury, but to which a dollar value can be assigned. This value represents what a user would be willing to pay. Examples include hunting, fishing, dispersed recreation, and wilderness use.

-Nonpriced--Benefits which do not have available market transaction evidence. There is no reasonable basis for making market value estimates which are comparable to priced output values. Examples are improved habitat for threatened and endangered species, increased vegetative diversity, and community stability.

## Costs

The direct costs of providing a set of benefits are relatively easy to define. These are the budget expenditures necessary to carry out management activities in the Forest. Detailed descriptions of the costs are included in Section IV.

## Effects

The definition of net public benefit includes reference to positive and negative effects. Effects are combined into one category for purposes of analysis and comparison in this EIS. Some effects can be measured by use of numbers, but others can only be described in words. For example, the number of acres of a kind of wildlife habitat can be measured, but its overall condition can only be described.

Forest planning attempts to objectively analyze and display alternatives for addressing the issues. What one person sees as a "positive" effect may be considered a "negative" effect by someone else. Also, the terms positive and negative imply "good" and "bad," which is a matter of personal judgment in many cases.

The effects of the various alternatives are presented, but interpretation of these effects as positive or negative is left for the reader to define.

## Arriving at Net Public Benefit

Determination of net public benefit cannot be reduced to a single index. All of the information on benefits, costs, and effects must be combined. Therefore, the decision on which alternative maximizes net public benefit is a subjective determination.

The decision on which alternative provides the greatest net public benefit uses information on economic efficiency, resource trade-offs, nonpriced benefits, and public preference. Public preference is expressed through the issues and concerns. Resource trade-offs are measured through the level of outputs produced by the alternatives. Nonpriced benefits are measured through a number of indicators.

The principal benefits and costs relevant to making that judgment for the Clearwater National Forest are associated with the issues discussed in Appendix A and with legislation underlying the planning process. Section 17 of this chapter details costs and benefits that can be measured in financial terms. Section 18 then compares changes in economic benefits with differences in response to issues. Because these are summary statements, a fully informed judgment of the alternatives also requires an understanding of the results which are discussed elsewhere in this document.

The major nonpriced benefits are described in detail in Appendix B, Section IV, and are summarized here. Nonpriced benefits reflect issues that are not directly addressed by the alternative PNV comparisons. The resolution of these issues varies significantly by alternative. Nonpriced outputs often result in reduced priced outputs (lower PNV). Table II-22 shows the trade-offs between providing priced outputs and nonpriced outputs. Alternatives are listed in

order of decreasing PNV to show some trends between PNV (priced outputs) and achievement of nonpriced resource goals. The indicators are used to estimate the relative achievement of nonpriced resource goals among alternatives. The indicators do not fully quantify or place a value on the nonpriced benefits but they indicate differences in levels of nonpriced benefits between alternatives.

**a. Major Nonpriced Benefits with Large Differences among Alternatives**

**Community Stability** - The ability to maintain a viable economic base to insure the existence of historical trades and professions within dependent communities constitutes nonpriced benefits of National Forest management activities. The contribution to potential employment with respect to Forest resource outputs was not considered in Present Net Value (PNV).

Alternatives were evaluated by comparing the average annual changes in employment resulting from increases or decrease in Forest outputs. The comparisons were made to the base year (1980) employment in the regional area (Clearwater, Idaho, Latah, Lewis, Nez Perce Counties in Idaho and Mineral County in Montana). The economy in this region has historically been resource-oriented, with a high proportion of employment dependent on Forest resource outputs. The Forest's contribution accounts for 3,038 jobs, or 11 percent of the total employment base. The effect of these changes were evaluated with respect to economic stability, or "rapid change." As defined, rapid change in the regional area would occur if increases or decrease in Forest resource outputs create a 15 percent or greater change in potential employment, income, and job distribution within a 10 year period. (See Appendix B, Section V for a further discussion.)

**Providing Dispersed Recreational Opportunity** - The value of dispersed recreational opportunities has been accounted for in the determination of PNV for each alternative. However, quality variations significantly above or below average were not considered in PNV calculations (i.e., PNV values were based on average quality assumptions).

Total potential roaded natural opportunities for dispersed recreation in all alternatives exceeds projected demand. This is due to an increase in opportunities of roaded recreation resulting from the Forest becoming more accessible (roaded) over time. However, in each alternative, opportunities for semiprimitive recreation will decrease as more acres are roaded. Those alternatives that increase wilderness acres can partially offset the increasing demand and decreasing supply of semiprimitive/primitive recreation, especially in Alternatives G, H and I. Those alternatives that have an overall reduction in semiprimitive and wilderness use could cause a decrease in the opportunity to experience solitude.

Areas designated to roadless nonclassified prescriptions in each alternative were used to evaluate the quality of semiprimitive recreation. Inventories show that approximately 950,311 acres (52 percent of the Forest) currently provide opportunities for semiprimitive recreation.

**Wildlife (Elk) Habitat** - The value of big-game (elk) habitat, as it relates to the number of recreation visitor days provided, has been accounted for in PNV.

However, the effect of timber harvesting on potential big-game habitat has not been addressed in this value.

Timber harvest on elk summer range habitat will utilize the Guidelines for Evaluating and Managing Summer Elk Habitat in Northern Idaho for all alternatives. However, the degree of habitat utilization and potential elk that will result varies by alternative. Managing for optimum elk habitat and managing for timber creates potential conflicts between these resources. Those alternatives which harvest the most area have the greatest potential for conflict. This is apparent in evaluating a road closure program to provide habitat security and incorporating the other coordinating recommendations. As more area becomes accessed for timber harvest, the probability of conflict increases. While conflict can also occur in unroaded areas, the chances are greatly reduced.

The alternatives were compared as to how the potential elk habitat was utilized in producing elk. Current (1980) elk numbers are estimated at 13,500.

**Providing for Visual Quality, Especially in Areas Identified as Retention or Partial Retention Visual Quality Objectives (VQO's)** - The value of providing visual quality in sensitive areas is not included in PNV. However, changes in PNV (decreases) occur where timber harvest is spatially constrained by time period and cutting practice to achieve an assigned VQO of retention or partial retention. These changes are addressed as opportunity costs of managing for a given alternative. The current inventory identifies approximately 156,400 acres as retention or partial retention. All wilderness have a preservation VQO.

**Anadromous Fisheries Habitat** - The value of potential of anadromous fisheries habitat, as it relates to recreational and commercial opportunities, has been included in PNV. However, the maintenance of habitat to provide a harvestable surplus of fish was not considered in this value. This issue was recognized as being critical to the development of the Forest Plan.

Alternatives were evaluated as to what degree they provide potential habitat requirements to make possible minimum harvestable surplus smolt (both steelhead and chinook) production in each major river system on the Forest. These river systems are the Lochsa and Clearwater River drainages. At present the Forest is maintaining 87 and 75 percent of the potential biological habitat for steelhead and chinook respectively. All alternatives increase potential habitat above minimum viable levels.

**Management of Habitat for Old-Growth Dependent Species** - The importance of maintaining adequate habitat for old-growth dependent species was treated equally in all alternatives as a minimum management requirement. Every alternative was modeled to insure that at least 5 percent of each watershed would remain in old growth and that old-growth habitat would be maintained on 10 percent of the land-base Forestwide. The value of old-growth habitat is not included in PNV. However, changes in PNV (decrease) occur where timber harvest is spatially constrained by time period to achieve old-growth habitat requirements.

While the minimum management requirement for old growth does provide adequate protection of dependent species, conflicts resulting from disturbance on

adjacent lands (timber harvests) may result in more intense levels of resource management coordination to maintain suitable old-growth habitat. Alternatives which provide levels of old-growth habitat exceeding 10 percent Forestwide will have a greater probability of reducing conflicts from competing land uses on adjacent lands. Each alternative was evaluated on the basis of how much old-growth habitat will be maintained Forestwide.

**Special Areas** - Benefits gained by designation of lands to special areas such as Research Natural Areas (RNA's) serve to expand our knowledge of unusual biological, geological, or animal features and provide ecological benchmarks. Existing RNA acres total 1,281. Total RNA acres designated are used to compare the alternatives. The maximum acreage designated is 8,932 acres and would slightly reduce PNV values.

**Resident Fisheries Habitat** - The value of resident fisheries, as it relates to recreational fishing opportunities, has been included in PNV. However, the maintenance of habitat to provide a harvestable surplus of catchable fish was not considered in this value.

The alternatives were evaluated as to what degree they provide potential habitat requirements for supplying harvestable resident fish production in the major river systems in the Forest. Presently the Forest is producing 523,600 resident fish per year (26,180,000 for 5 decades) and maintaining 88 percent of the potential biological habitat. All alternatives maintain potential habitat above minimum viable levels on a Forestwide basis.

**Providing Wilderness Recreational Opportunity** - The value of wilderness recreational opportunities has been accounted for in the determination of PNV for each alternative. However, significant variations of quality above or below the average were not considered in PNV calculations. For example, PNV values were based on average quality assumptions.

Capacity for each alternative to supply wilderness recreational experience varies by the total wilderness acreage recommended. Projected use does not become constraining until the fifth decade in Alternatives B and C. When projected use exceeds capacity, the quality of the recreational experience will decrease in value if use is not restricted. Those alternatives that have a higher total recommended wilderness acreage will be able to supply a higher quality wilderness experience for a greater time span.

The acreage of roadless area recommended as wilderness in each alternative was used to evaluate the quality of the wilderness recreational experience. Current inventory of roadless area capable of providing opportunities for wilderness recreation is about 950,311 acres or 52 percent of the Forest.

**b. Nonpriced Benefits That Differ  
Less Among Alternatives**

**Management of Threatened and Endangered Species Habitat** - The importance of maintaining or enhancing suitable habitat for threatened and endangered (T & E) species was considered equally as a minimum management requirement in all alternatives. The only T & E species being managed at the present time is the endangered gray wolf, although habitat requirements for the bald eagle and the



grizzly bear are being evaluated also. The value of the T & E species management was not included in PNV.

All alternatives will adequately protect the habitat of T & E species. Differences in the degree of resource management coordination that will be needed to attain the goals of T & E habitat protection were used to analyze alternatives. As stated, each alternative provides for the management of T & E species habitat, but those alternatives which propose the greatest level of development (timber management) will require close coordination for management to reduce conflicts among competing land uses. This is especially apparent with respect to road closures after timber harvesting to reduce the effects of human intrusion. Alternatives which limit development should not require an intense level of coordination.

**Cultural Resources** - Protection of known historic and prehistoric cultural areas and the inventory, evaluation, and protection of undiscovered sites are addressed equally in all alternatives. The value of these sites is not included in PNV. Those alternatives which have the greatest level of land-disturbing activities (i.e., timber harvest) will lead to the earliest and most complete inventory and analysis of cultural resource sites in the nonclassified portion of the Forest. (Cultural inventory in classified areas is performed in response to specific requests and is not affected by any alternatives.)

#### **17. Significant Differences in Economic Values Among Alternatives**

This section explains trade-offs that would occur among the quantified economic benefits and outputs. Additional trade-offs involving outputs and benefits not quantified in economic terms by PNV together with community effects and different responses to the ICO's identified in the planning process are explained in Section 18.

##### **a. Differences in Present Net Value (PNV)**

The primary measure of economic efficiency (net priced benefit) is present net value (PNV). This is the sum of market and nonmarket priced values (including timber sales, livestock grazing, recreational use, mineral leases, power, special uses, and other land uses) less all management costs for the 150 year planning horizon discounted at four percent. The PNV of the alternatives is included in the displays in Table II-19 and II-20 and in Figure II-38. The Maximum PNV Benchmark represents the maximum net economic return available from managing the Forest and is also included in these tables and figures. This benchmark is provided as a reference point. Although it meets minimum legal requirements of managing the Forest, it is not considered a viable alternative as it was not designed to address issues.

In Table II-19 the alternatives are ranked by present net value. Again present net value is defined as the difference between the sum of discounted benefits and the discounted costs of each alternative. The second column in Table II-19 shows the differences in PNV among pairs of alternatives. These figures are estimates of the net economic values that would be foregone if a lower-ranked alternative rather than the preceding one were selected. Because timber values are the major component of PNV, these potentially foregone values are largely due to limiting the timber program.

With a few exceptions, as PNV decreases across alternatives so do discounted costs and discounted benefits. This general pattern exists because timber production dominates benefits and timber and roads associated with timber production dominate costs. Table II-20 shows that variations in benefits and costs associated with other resources are relatively minor. The discounted benefits associated with timber, recreation, and range are always greater than the costs directly attributable to producing those benefits; the benefits associated with the category of other are less than costs in the other category.

As timber harvests decrease, the discounted benefits and PNV decrease. Costs also decrease but at a slower rate. Discounted benefits decrease by 35 percent from the alternative that most emphasizes timber (Alternative C) to the one that least emphasizes timber (Alternative I). Costs all decrease faster than discounted costs because there are fixed costs which do not vary by alternative.

There are several exceptions to the general patterns of changes in economic values in Table II-19. The first exception is between Alternatives C and B. Discounted costs and benefits increase from Alternatives C and B. Discounted costs and benefits increase from Alternative B, but PNV decreases. The reason is that Alternative B harvests the most timber of any alternative but in so doing some areas which are marginal in their contribution to PNV are harvested. In Alternative C, some of those marginal lands are excluded from timber production as a result timber volume decreases but total PNV increases. The two other exceptions are Alternative K and Alternative A which have discounted costs which increase over the previous alternatives because of timber volume constraints in decade one. Both alternatives constrain timber harvest to a level in decade one higher than would be reached without the constraint.

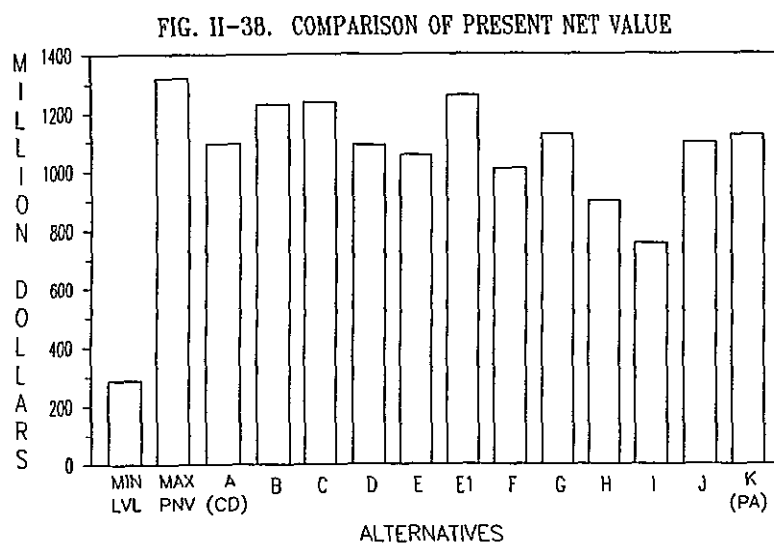


Table II-19. Present Net Value, Discounted Costs and Benefits  
Ranked by PN<sub>V</sub>  
(million \$)

Benchmarks/ Alternatives	PNV	Change	<u>Discounted</u> Costs		<u>Discounted</u> Benefits	
				Change		Change
Max PN <sub>V</sub> (Benchmark)	1320.1	-59.6	681.8	-153.9	2001.9	-213.5
Alt. E1 (Departure)	1260.5	-21.4	527.9	-25.5	1788.4	-46.9
Alt. C	1239.1	-7.6	502.4	19.7	1741.5	12.1
Alt. B	1231.5	-103.7	522.1	-44.7	1753.6	-148.4
Alt. G	1127.8	-3.7	477.4	2.2	1605.2	-1.5
Alt. K (Preferred)	1124.1	-28.7	479.6	-19.8	1603.7	-48.5
Alt. J	1095.4	-1.6	459.8	17.4	1555.2	15.7
Alt. A (Current Dir.)	1093.8	-4.6	477.2	-18.0	1570.9	-22.0
Alt. D	1089.2	-35.5	459.7	-10.9	1548.9	-46.4
Alt. E	1053.7	-46.6	448.8	-21.5	1502.5	-68.1
Alt. F	1007.1	-108.7	427.3	-26.5	1434.4	-135.2
Alt. H	898.4	-144.9	400.8	-35.7	1299.2	-180.6
Alt. I	753.5	-465.8	365.1	-301.1	1118.6	-766.9
Min. Level (Benchmark)	287.7		64.0		351.7	

Table II-20

Present Net Value Analysis by  
Resource Group by Alternatives/Benchmarks \*  
(million \$ )

Altern / Benchmark	Present Net Val	PV Benefit				PV Cost				
		Recreation/ Wildlife	Timber	Other	Range	Recreation/ Wildlife	Timber	Roads	Other	Range
Maximum PNV	1320 1	329 7	1657 9	8 6	5 7	42 1	311 1	231 7	95 4	1 5
E1	1260.5	358 9	1414 4	9 8	5 4	53 6	211 9	165 4	95 6	1 5
C	1239 1	374.9	1348 9	12 0	5 6	42 8	195 0	167 7	95 5	1 5
B	1231 5	340 3	1398 6	9 0	5 7	40 7	209 1	175 3	95 4	1 5
G	1127 8	372 6	1215 5	11 7	5 4	49.3	178 2	152 7	95 6	1 5
K (pa)	1124 1	387.9	1198 9	11 1	5 8	25 1	168.2	148 7	136 5	1 2
J	1095 4	391.0	1146 1	12 7	5 4	49 2	164.1	149 4	95 6	1 5
A (cd)	1093 8	370 6	1182 9	11 9	5 5	46 8	173.5	159 8	95.5	1 5
D	1089 2	386 7	1144 5	12 3	5 4	48 8	164 2	149 7	95 6	1 5
E	1053 7	389.3	1095 2	12 6	5 4	49 9	153 9	148 0	95 5	1 5
F	1007 1	388.3	1028 6	12 3	5 1	51 7	148 2	130 3	95 7	1 4
	898 4	380 6	901 1	12 6	5 0	56 4	126 2	121 0	95 7	1 4
T	753.5	377 2	723 9	12 7	4 7	57 2	110 3	100 4	95 8	1 4
Minimum Level	287 7	338.6	0	13 1	0	5 6	3	14 6	43 5	0

The direct comparison of individual resource benefits and costs can be misleading because the individual resource cost data does not include General Administration and other "joint costs "

## **b. Differences in Economic Benefits and Cash Flows**

Benefits considered in the analysis can be separated into two categories: 1) priced outputs and 2) nonpriced outputs. Priced outputs can be subdivided into two areas: those outputs with values assigned in the market place or market outputs; and those outputs with values based on the consumers willingness to pay or nonmarket outputs. Nonpriced benefits do not have available market transaction evidence. There is no reasonable basis for making market value estimates which are comparable to priced output values. This discussion focuses on the economic benefits associated with market and nonmarket priced outputs.

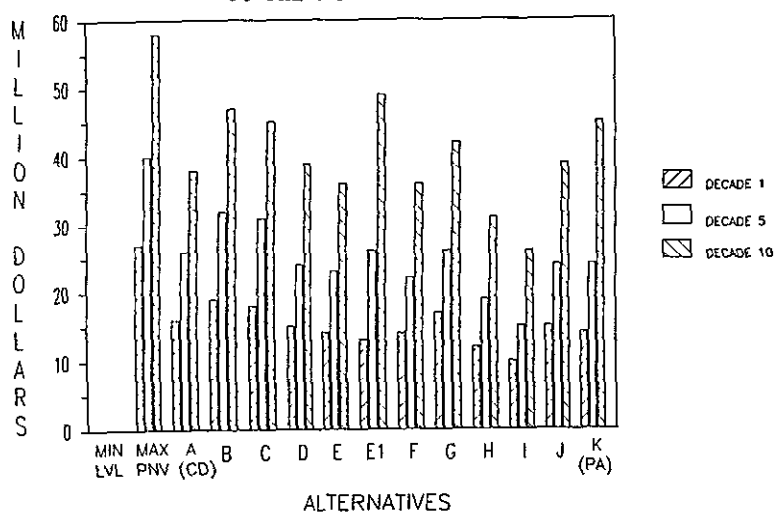
Market outputs are outputs which are routinely traded in an established market and return dollars to the U.S. Treasury. These actual returns to the U.S. Treasury are called receipts. The outputs that generate receipts are timber, camping at developed campgrounds, livestock grazing, mineral leases, and special use fees. Nonmarket outputs are outputs which are not customarily sold in an established local market and, therefore, do not return dollars to the U.S. Treasury, but to which a dollar value can be assigned. This value represents what a user would be willing to pay. Examples include hunting, fishing, dispersed recreation, and wilderness use. The difference between the potential cash value of resources (market and nonmarket priced benefits) and the fees actually paid by the users of the resources (receipts) is known as noncash benefits.

Comparisons of economic benefits to budget costs measure the overall efficiency of alternatives. Cash receipts and costs measure actual flows to and from the U.S. Treasury and the taxpayers. On this Forest, the major differences among both economic values and cash receipts are due to differing levels of timber production. Net cash flows for the first and fifth decades are displayed in Table II-21.

Receipts other than those from timber sales are expected to be relatively minor, averaging less than \$100,000 per year in all alternatives. Returns are projected to increase in all alternatives primarily because of real stumpage price increases and increasing levels of timber harvest through the fifth decade. Returns in the first decade, for all alternatives, are higher than the base year (1980) returns of \$6.2 million.

The average annual returns to the U.S. Treasury for all alternatives for decades one, two, and three are shown in Figure II-39.

FIG II-39 AVERAGE ANNUAL RETURNS  
TO THE U.S. TREASURY



Cash receipts are greater than expenditures for Alternatives B and C in all decades and for the remaining alternatives in decades 2 to 15. In the first decade, net receipts are negative or low because of the age structure of timber. As the age increases in later decades, volume per acre increases and the increases in real prices result in net receipts becoming more positive.

The portion of economic benefits that would not be collected as cash receipts, the noncash benefits, is a function of recreation and wildlife outputs produced. In decade one, noncash benefits are essentially constant across alternatives. The increases in noncash benefits by the fifth decade primarily reflect anticipated increases in population and changes in hunting as a result of wildlife management objectives in each alternative.

Total costs in decade one for Alternative K (Preferred Alternative) are relatively higher than other alternative due to the review of the costs and changes in FORPLAN which occurred between the Draft and Final EIS.

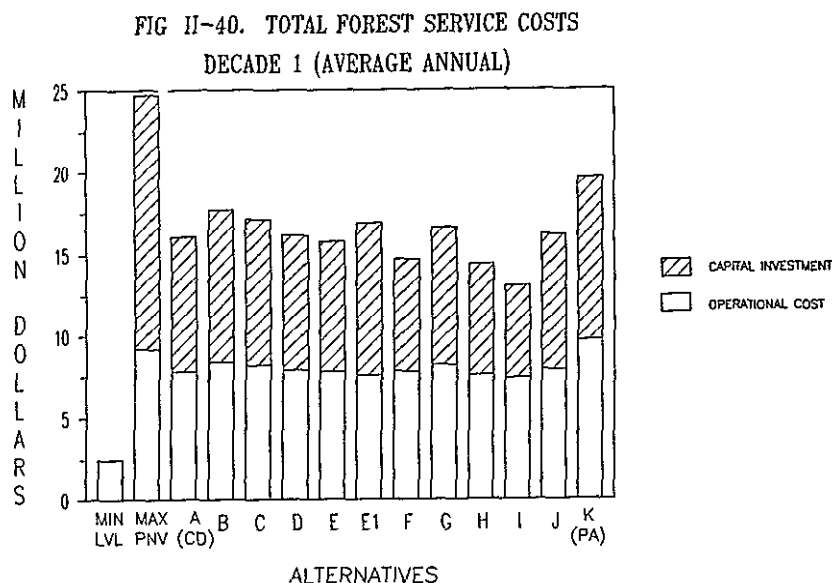
Table II-21 shows total receipts and total costs. If only timber receipts are compared to timber and road costs (see Table II-24), net timber receipts are positive for all alternatives in all decades. Table II-20 shows that total discounted benefits for the planning horizon are greater than discounted timber plus road costs in all alternatives. These examples indicate that the overall financial return of the timber program is positive. However, the positive values do not mean all below-cost sales have been avoided. In fact, in Chapter II, Section D, 153,561 acres or 15 percent of the suitable timberland have costs exceeding benefits. Timber sales, whether below cost or not, were assessed in terms of how they fit into a comprehensive program of management for the Forest. The mix of outputs and the associated costs and benefits produced by different alternatives are the result of selecting prescriptions which most efficiently meet the objectives of the alternatives. Cost efficiency was considered in both the development of prescriptions (Appendix B, Sections III and IV) and in the selection of prescriptions to be implemented in any alternative. This selection was through the use of FORPLAN which had a range of prescriptions to choose from when determining an optimal solution for

each alternative based on the alternatives goals and objectives.

In spite of alternative and prescription cost efficiency objectives, some below-cost sales have been incorporated into alternative solutions. As the Forest Plan is implemented, options for reducing costs while meeting standards and guidelines will be reviewed and implemented when appropriate. One opportunity that exists is to streamline the environmental assessment process through tiering to the Forest Plan.

### c. Differences in Costs (Budget)

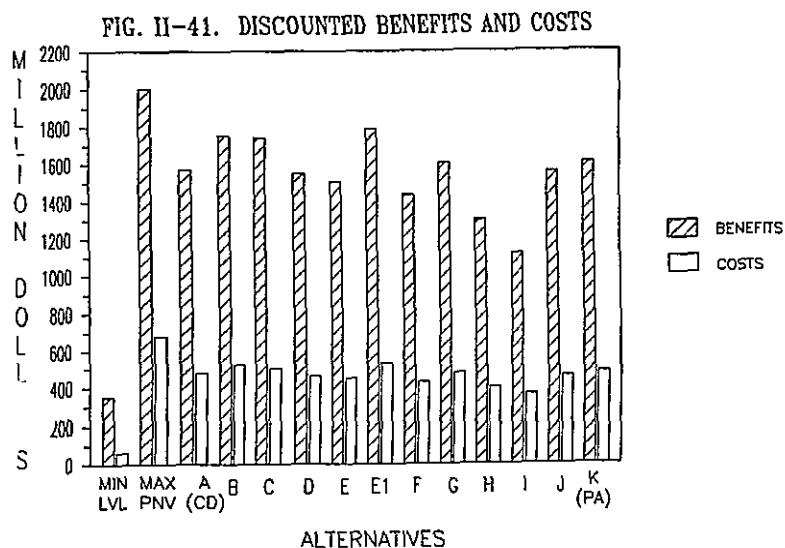
The average annual costs in decade one are displayed in Figure II-40 for three cost categories: total, capital investment, and operational. The annual costs for all alternatives are higher than the base year (1980) expenditure level of \$14.2 million. The annual costs by major resource groups for selected decades are displayed in Table II-24



Approximately 23 to 45 percent of the costs in all alternatives are for activities which are not significantly influenced by the objectives of that alternative. These costs range from \$5.8 to \$6.1 million per year and represent the costs of activities such as fire prevention and detection, developed recreational management, and general administration. All other costs are for resource management activities which are determined by the objectives of the alternatives. Alternative B, which emphasizes market resources, has a higher proportion of timber and road costs than any other alternative. All other alternatives have lesser proportions of these costs, based on the objective of emphasizing nonmarket resources. In general, the total costs among alternatives decrease corresponding to the decrease in PNV. This is in response to the objective of managing some Forest lands for nonmarket or wilderness purposes. Costs decrease in all alternatives over time because most of the Forest roads are constructed in the first five decades. (See Appendix B for more information on cost development.)

#### d. Present Value Costs

The discounted costs and benefits for the planning horizon by alternative are displayed in Figure II-41 and in Table II-20. The discounted cost is the sum of all expenditures for 150 years discounted at four percent. The minimum discounted cost for Federal ownership of the Forest is \$64 million as defined by the Minimum Level Benchmark. This represents the cost of maintaining existing investments at levels which will insure the health and safety of incidental Forest users.



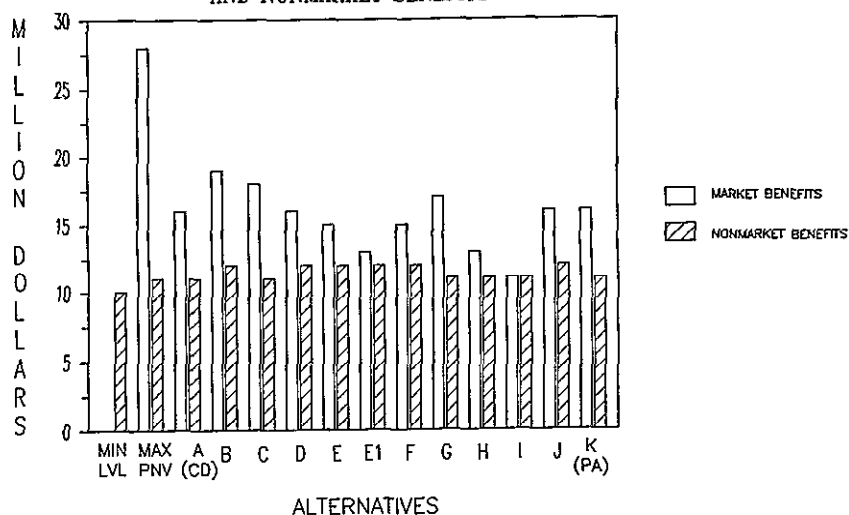
The present value of costs in Table II-20 and the average annual costs in Table II-24 for recreation and wildlife are low in Alternative K (Preferred Alternative) relative to the other Alternatives. The present value of costs under the other cost category is high in Alternative K (Preferred Alternative) compared to the other alternatives. The reason for these changes is because of the way recreation/wildlife and other costs were grouped in Alternative K.

#### e. Annual Priced Benefits

The average annual benefits for decade one are displayed in Figure II-42 for two resource categories: market and nonmarket. Market benefits are the sum of the returns to the U.S. Treasury from timber sales, livestock grazing fees, campground fees, mineral leases, and special use fees, plus willingness to pay values assigned to commercial anadromous fishing, grazing and developed recreation. Nonmarket benefits are the willingness to pay values assigned to dispersed, and wilderness recreation, recreation associated with big game (elk), and recreation associated with anadromous sport fishing. The willingness to pay values assigned commercial anadromous fishing and all other recreation recognizes the potential dollar return to the taxpayer even though fees are not collected for these activities. The annual benefit by the two resource categories and by individual resources for selected decades are displayed in Table II-24. The benefits increase for all alternatives throughout the planning horizon, primarily as a response to increasing outputs and increasing real values for these outputs over time.



FIG. II-42. DECADE 1 AVERAGE ANNUAL MARKET  
AND NONMARKET BENEFITS



#### f. Present Value Benefits

Present value benefits are also displayed in Figure II-41 by alternative. Present value benefits are the sum of annual priced benefit (market and nonmarket) values for 150 years discounted at four percent. Appendix B, Section IV, contains a more detailed discussion of priced benefits (market and nonmarket) and benefits that are not measurable in dollar terms (nonpriced benefits). Discounted economic benefits by major resource category are displayed in Table II-24 at the end of this chapter.

The present value benefits assigned to market resources contribute 50 to 80 percent of all discounted benefits in all alternatives. The proportion of market benefits is higher in alternatives which emphasize market resources, while the proportion of nonmarket benefits is higher in those alternatives which emphasize nonmarket benefits. The primary difference in the total discounted benefit value for all alternatives is timber values.

Table II-21

Average Annual Net Receipts to the U S Treasury  
(million \$)

Alternatives/ Benchmarks	1st Decade				5th Decade			
	Net Receipts	Total Costs *	Total Receipts	Non-Cash Benefits	Net Receipts	Total Costs *	Total Receipts	Non-Cash Benefits
Max PNV	2	25	27	12	107	31	138	15
E1	-5	17	12	12	192	38	230	17
C	1	17	18	12	91	21	112	19
B	1	18	19	12	95	22	117	16
G	0	17	17	12	82	19	101	19
K (pa)	-6	20	14	12	88	20	108	19
J	-1	16	15	12	75	18	93	19
A (cd)	0	16	16	12	77	19	96	18
D	-1	16	15	12	75	18	93	19
E	-2	16	14	12	68	17	85	20
F	-1	15	14	12	69	17	86	20
H	-2	14	12	12	58	17	75	19
I	-3	13	10	12	47	15	62	19

\* Total costs are total Forest Service expenditures but do not include 25% receipt sharing to counties

## 18. Major Trade-offs Among Alternatives

This section provides additional information to help identify the alternative(s) that come closest to maximizing net public benefit while meeting legal and environmental requirements and responding to the ICO's. This additional information describes the trade-offs that would occur among the net quantified benefits described in Section 17 and the nonpriced benefits described in Section 16. Except for the quantified economic benefits, the adequacy of each alternative's attempt to address ICO's is a subjective decision based on the value individuals attribute to the different resource mixes.

As indicated earlier, the public review of the DEIS resulted in the addition of a new Preferred Alternative K and caused other changes. The following is a list of the changes between the DEIS and FEIS that occurs in this section:

- The Preferred Alternative K discussion has been added.
- Discussion on fisheries has been updated to reflect change in smolts and fish estimates.
- Narratives have been reviewed and revised where appropriate.
- Changes have been made to numbers in tables and throughout the text where errors were found or inconsistencies existed.

#### a. National, Regional and Local Demand Outlook

To provide a framework for assessing responses to ICO's, and the long-term resource demands and needs of the nation, region, and local communities are reviewed briefly.

The RPA projects total national demands to rise for all outputs of National Forests: timber, minerals, forage, outdoor recreation and wildlife experiences including wilderness, water supply and many amenity uses of Forest and range lands. There is also a strong demand to protect and enhance the quality of the environment while meeting these demands. The markets into which the commodities produced on the National Forests flow, are generally regional or national. The nation benefits when supplies are provided from the most efficient sources of production. The Clearwater National Forest is an efficient supply source for timber and minerals.

Users of National Forest outdoor recreation, wildlife, and wilderness opportunities are generally people from the region adjacent to the National Forest. For example, 54 percent of the general dispersed and wilderness recreational users were from the Clearwater National Forest primary impact area of Clearwater, Idaho, Nez Perce, Lewis, Latah Counties in Idaho, and Mineral County in Montana. (See Appendix B, Section V.)

The impact area population has been increasing at a moderate rate. The 1980 total employment in the six-County area constituted about 27,057 jobs of which 3,038 or 11 percent were associated with the production and management of the Clearwater National Forest. Sixty percent of the Forest-related employment was associated with harvesting and manufacturing timber and 10 percent with Clearwater National Forest employees and contractors. The remaining 30 percent was associated with Forest related wildlife and recreational use.

#### b. Issues, Concerns and Opportunities

Relationships between priced and nonpriced outputs illustrate the interactions of attempting to resolve various issues. These are displayed in Table II-22. Competitive public issues, management concerns, and resource opportunities exist, and it is impossible to fully meet all wants and desires at the same time. By examining an array of priced and nonpriced outputs it becomes possible to see what is given up and what is achieved as a range of alternatives is explored. An understanding of the trade-offs between alternatives is required to help decisionmakers decide which alternative maximizes net public benefit. The mixes of priced and nonpriced outputs resulting from each alternative are a direct result of the varied attempts to resolve the public issues discussed in Chapter One.

Appendix A fully discusses each of the ICO's. Of the ICO's, with the greatest influence on the alternatives and indicators of responsiveness include:

1. The level of timber harvest and effects of the Forest to the economic development and way of life of nearby communities. Although no quantitative indicators reflecting ways of life are available, Section 15 discusses the implications of the alternatives. Indicators of contribution to economic development are:
  - volume of timber harvested
  - long-term sustained yield
  - suitable acres managed for timber production
  - number of jobs
  - income generated in communities
  - payments to counties
2. Providing for unroaded and wilderness management. Indicators:
  - acres of roadless area designation
  - acres of wilderness
3. Quality of wildlife habitat, especially elk habitat. Indicators:
  - number of elk
4. Providing for visual quality in sensitive areas. Indicators:
  - acres of retention
  - acres of partial retention
5. Water quality and fish habitat. Indicators:
  - anadromous smolt production
  - resident fish potential
6. Providing special areas for Research Natural Areas. Indicators:
  - acres of RNA designated
7. Road construction. Indicators:
  - miles of road

In addition, the nation as a whole has an interest in ensuring that the valuable Forest is managed in a financially prudent manner while the quality of the physical environment is protected and enhanced. Additional indicators:

- budget costs
- cash receipts
- economic efficiency as measured by present net value
- income transfers to Forest users

Table II-22. (Part I) Indicators of Responsiveness of Alternatives to Major Issues and Management Concerns

Alternatives/ Benchmarks				Issue Response Indicators							
	PNV	First Decade Average		Timber		and Community		Stability			
		Annual		First		Avail	Payments	Change in *	Change in *		
			Total	Decade Har-	Annual	Timber	to Co	Jobs from	Income from		
		Budgets	Receipts	vest Avg	LTSY	Lands	1st	Base Year	Base Year		
			1st Decade	Annual			Decade	Decade	M\$ Decade		
				MMBF	MMBF	M Acres	MM\$	1	5	1	5
Max PNV	1320 1	25	27	309	585	1248	6 8	1976	6015	44 5	129.3
E1	1260 5	17	12	146	442	1008	3 1	-59	10254	-2 7	228 1
C	1239 1	17	18	213	533	1134	4 4	732	4180	16.0	86 5
B	1231 5	18	19	225	543	1153	4 6	885	4453	19 5	93 0
G	1127 8	17	17	191	442	960	4 2	476	3739	9 8	75 6
K (pa)	1124 1	20	14	173	440	988	3 6	357	4437	7 4	93 3
J	1095 4	16	15	176	431	949	3 8	302	3340	5 9	66 5
A (cd)	1093.8	16	16	181	464	1041	3 9	345	3460	6 9	69 4
D	1089 2	16	15	176	429	941	3 8	302	3335	5 9	66 4
E	1053 7	16	14	160	442	997	3 5	94	2954	1 0	57 5
F	1007 1	15	14	160	361	793	3 5	94	2969	1 0	57 8
H	898 4	14	12	139	316	694	3 0	-141	2511	-4 4	46 4
I	753 5	13	10	117	255	548	2 5	-400	2026	-10 4	34 9

\* Change in Forest related employment Base Year = Jobs - 3038, Income - \$59,629,000  
(See Appendix B for further discussion )

Table II-22 (Part II) Indicators of Responsiveness of Alternatives to Major Issues and Management Concerns

Alternatives/ Benchmarks	Issue			Response			Indicators						
	Roadless and		Wildlife	Visual		Water Quality and Fish Habitat					Special	Roa	
	Wilderness Issue			Quality		Anadromous			Resident	Area	Cons		
			M Elk			Fisheries		Fisheries	Acres				
	Roadless	Area of	by	M Acres	M Smolts		M Fish	Allocated	Total				
	Area	Wilderness*	Decade			Steelhead	Chinook			to RNA	Road		
						in Decade	in Decade	in Decade				Need	
	M Acres	M Acres	1/3	Ret	Part Ret	1	5	1	5	1	5		Mil
Max PNV	0	259	14/18	1	57	250	140	366	171	438	320	1281	1112
E1	188 4	448	19/25	42	144	250	204	367	243	536	536	5932	947
C	70 7	305	18/21	0	77	250	222	367	340	522	490	5257	1028
B	0	259	18/19	0	88	250	137	374	190	502	509	1281	1054
G	0	713	18/18	48	87	250	222	367	341	502	469	5257	932
K (pa)	242 2	457	18/29	36	146	250	239	367	353	521	495	9636	865
J	168 9	518	19/26	41	124	257	238	386	362	536	534	5932	915
A (cd)	92 7	450	16/20	58	96	234	206	367	340	522	510	1281	990
D	293 3	390	19/26	41	118	257	243	386	362	536	535	5932	911
E	188 4	448	19/27	42	143	250	249	367	367	536	535	5932	911
F	290 5	556	21/22	48	87	257	242	386	342	536	534	8932	82
H	14 4	975	17/21	28	94	240	228	386	362	537	534	8932	77
I	0	1210	15/17	13	52	257	243	386	361	537	535	8932	65

\* Includes 259 M acres of existing Selway-Bitterroot Wilderness

### c. Trade-offs Among Alternatives

The primary reason that alternatives differ is that they respond to the issues in different ways. This response can be partially defined by the level of outputs, conditions, or other quantifiable criteria that are displayed in Table II-22.

In general the amount of wilderness, roadless, old growth, visual quality and protected fish habitat acres increase as PNV and the level of timber production decrease. Old growth does not affect the change in PNV between alternatives because the constraint (goal) for old growth does not vary between alternatives. The objective is to maintain 10 percent of Forested land in old growth and anything above that level is a result of other resource goals.

As more wilderness and roadless areas are designated, PNV is affected in two ways: 1) the current and long range timber harvest (long-term sustained yield) are reduced due to the reduced production base and 2) stands with less valuable timber are harvested and costs are higher due to access. As the area managed for visual quality increases it also affects PNV in two ways: harvest costs increase and the amount of volume removed in the first entry is decreased, decreasing benefits. Water quality/fisheries habitat is protected by delaying harvest near degraded or sensitive streams. This has a significant effect on PNV, because to maintain a fairly high timber cut, the harvest is forced into areas with higher access costs and lower timber values.

The following section discusses the major economic trade-offs among the alternatives, and discusses issues addressed by each alternative. The alternatives are listed in order of decreasing PNV. For a more detailed discussion of resource constraints see Appendix B, Sections IV and V.

#### Maximum PNV Benchmark

PNV: \$1,320.1 million

Reduction in PNV from Maximum PNV Benchmark: \$0

This benchmark establishes a mix of resource uses and schedule of outputs and costs that maximized present net value at \$1,320.1 million. The nondeclining timber harvest volume varies from 296.5 MMBF per year in decade 1 to 633.2 MMBF per year in decade 15 while meeting minimum management requirements and allowing timber volumes to fluctuate 20 percent between decades. In the absence of competing goals of other resources, timber harvest occurs on the most economically efficient lands. All roadless areas are available for timber harvest subject to achieving maximum PNV. A total of 1,188,700 acres are managed for timber production out of 1,249,000 acres that are tentatively suitable. Thus, with relatively low noncommodity resource goals, 95 percent of the tentatively suitable timber base can be managed for timber production.

The resource outputs, scheduling, benefits, and costs of the Maximum PNV Benchmark were used as reference points for comparing all alternatives.

## Alternative E1 (Departure)

PNV: \$1,260.5 million

Reduction in PNV from Maximum PNV Benchmark: \$59.6 million

The decrease in PNV of this alternative represents a 4 percent reduction from the Maximum PNV Benchmark. The reduction is a result of increasing fisheries habitat requirements to high fishable for all roadless areas and minimum viable for roaded areas (except for low fishable in Pierce District, no constraints in Palouse District, high fishable in the roaded portions of North Fork, and Powell Districts, and moderate fishable in the roaded portion of the Lochsa District) and reducing the suitable acres for timber harvest to 240,000 acres. This reduces total discounted timber benefits by 15 percent or \$243.5 million and decreases the long-term sustained yield (LTSY) to 442 MMBF. Timber harvest volumes vary from 146 MMBF in the first decade to 898 MMBF in the fifth decade. Due to the low first decade timber harvest, the returns to the U.S. Treasury are 55 percent lower than the Maximum PNV Benchmark. Total discounted benefits for recreation, wildlife, and fisheries are \$358.9 million, a 6 percent increase from the Maximum PNV Benchmark. This increase is a result of increased potential of anadromous fisheries, increased improvement in big-game (elk) habitat, and an increase in the capacity of wilderness and semiprimitive recreation. Income transfers are \$365.1 million or a 10 percent increase over the Maximum PNV Benchmark.

Following is a summary of the major nonpriced outputs in Alternative E1.

### (1) Community Stability

Potential employment in the regional area decreases by 59 jobs in the first decade above the base year (1980) level, a 2 percent decrease. This reduction in potential employment is a direct result in the low timber harvest in the first decade. However, employment levels in subsequent decades increase substantially. For example, potential employment in the regional area increases by 10,254 jobs in the fifth decade. This increase is primarily a result of higher timber harvest levels in the later decades. Payments to counties in the first decade will be approximately 20 percent less than the Current Direction Alternative A due to the low harvest. However, by the fifth decade these payments will increase substantially.

### (2) Semiprimitive Recreation

Alternative E1 provides a low opportunity for semiprimitive recreation. Only 188,400 acres or 10 percent of the Forest is designated to prescriptions which allow opportunities for semiprimitive recreation. This is partially offset by the increase in wilderness recreation.

### (3) Wilderness

Opportunities for wilderness recreation increase by recommending 188,871 acres to the wilderness system. The total wilderness acreage is 448,036 acres or 37 percent of the present roadless and wilderness areas. This provides for the seventh highest wilderness recreation of all alternatives. In addition 188,411



acres will continue to be managed as unroaded, bringing the total wilderness/unroaded acreage to approximately 636,447 acres or 35 percent of the Forest.

#### (4) Wildlife (Elk) Habitat

This alternative will eventually access 573,400 acres or 47 percent of current roadless and wilderness areas. Fifty-three percent or 636,100 acres will remain unroaded. Alternative E1 produces 19,000 elk in the first decade and 25,000 elk in the third decade which represents a 19 percent increase from current direction (Alternative A) in decade one and a 25 percent increase in decade three.

#### (5) Visual Quality

In Alternative E1, 186,400 acres designated for timber harvest are managed to achieve the Visual Quality Objectives (VQO's) of retention and partial retention. This alternative also allows 819,000 acres to be managed to achieve the VQO's of modification and maximum modification.

#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks eleventh in the production of steelhead trout. Steelhead trout potential in decade five is 204,000 smolts per year.

Alternative E1 ranks eleventh out of the twelve alternatives in the production of chinook salmon with a potential of 242,600 smolts per year in decade five.

Resident fish production is 535,600 fish per year in decade five which ranks Alternative E1 first in the production of resident fish.

#### (7) Old Growth

A total of 699,000 acres or 38 percent are maintained in old-growth habitat by the end of the planning period. This small acreage is a result of the increase in suitable acres for timber harvest.

#### (8) Special Areas

This alternative designates 5,932 acres to research natural areas.

### Alternative C

PNV: \$1,239.1 million

Reduction in PNV from Maximum PNV Benchmark: \$81.0 million

The decrease in PNV of this alternative represents a 6 percent reduction from the Maximum PNV Benchmark. This reduction is a result of increasing fisheries habitat requirements to moderate fishable (except min. viable in the Palouse

District and low fishable in the roaded portions of the Pierce District) and reducing acres of suitable timberland by 114,000 acres. This reduces discounted timber values by 19 percent to \$1,348.9 million and decreases long-term sustained yield (LTSY) to 533 MMBF. Timber harvest volumes vary from 213 MMBF in the first decade to 593 MMBF at the end of the planning period. Returns to the U.S. Treasury are 50 percent higher in the first decade than Alternative E1, but only 12 percent more than the Current Direction Alternative A. Discounted benefits for recreation, wildlife, and fisheries are \$374.9 million, a 11 percent increase from the Maximum PNV Benchmark. This increase in benefits primarily can be attributed to the increase in potential anadromous fisheries and a slight increase in the capacity of wilderness and semiprimitive recreation. Income transfers are \$383.6 million, a 5 percent increase over Alternative E1.

Following is a summary of the major nonpriced outputs in Alternative C.

#### (1) Community Stability

Potential employment in the regional area increases by 732 jobs in the first decade above the base year (1980) level, a 24 percent increase. Employment levels in subsequent decades show a continuing increase in employment and income, primarily as a result of increases in timber harvest levels and Forest Service expenditures. For example, potential employment in the regional area expands by 4,180 jobs in the fifth decade. Payments to the counties in the first decade increase by 42 percent over Alternative E1 and 13 percent over the Current Direction Alternative A.

#### (2) Semiprimitive Recreation

Alternative C manages 70,700 acres or 4 percent of the Forest to areas which allow semiprimitive recreation. This is partially offset by the increase in opportunities for wilderness recreation.

#### (3) Wilderness

In this alternative, opportunities for wilderness recreation increase by recommending 45,471 acres to wilderness. The total wilderness acreage is 304,636 acres or 25 percent of the current roadless area which ranks this alternative second to last in the amount of recommended wilderness. This brings the total wilderness/roadless acres to approximately 375,321 acres or 20 percent of the Forest.

#### (4) Wildlife (Elk) Habitat

Alternative C eventually accesses 833,500 acres or 69 percent of current roadless and wilderness areas and produces 18,000 elk in the first decade and 21,000 elk in the third decade. This is an increase over Alternative A of 12 percent in decade one and five percent in decade three. Thirty-one percent or 375,400 acres remain unroaded.

#### (5) Visual Quality

In Alternative C, 77,100 acres designated for timber harvest is managed to achieve the VQO's of retention and partial retention. This alternative also

allows for 1,057,000 acres to be managed to achieve the VQO's of modification and maximum modification.

#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks ninth in the production of steelhead trout. Steelhead trout potential in decade five is 222,100 smolts per year.

Alternative C ranks ninth out of the twelve alternatives in the production of chinook salmon with a potential of 340,200 smolts per year in decade five.

Resident fish production is 489,900 fish per year in decade five which ranks Alternative C eleventh in the production of resident fish.

#### (7) Old Growth

A total of 630,000 acres or 34 percent are maintained in old-growth habitat by the end of the planning period. This alternative has the third lowest level of old-growth acres which is a result of the increase in suitable acres for timber harvest.

#### (8) Special Areas

This alternative designates 5,257 acres to research natural areas.

### Alternative B

PNV: \$1,231.5 million

Reduction in PNV from Maximum PNV Benchmark: \$88.6 million

This is the Maximum Timber Alternative and results in a PNV reduction of 7 percent from the Maximum PNV Benchmark. This reduction is a result of a slight increase in fisheries habitat requirements from minimum viable to low fishable (except min. viable in the Palouse District) and a reduction of 95,600 acres of lands suitable for timber harvest. Although this alternative reduces the discounted timber benefits by 16 percent to \$1,398.6 million and decreases the long-term sustained yield (LTSY) to 542.6 MMBF, it still ranks highest in discounted timber benefits and timber volume among the alternatives. Timber harvest volumes vary from 205 MMBF in the first decade to 601 MMBF at the end of the planning period. First decade returns to the U.S. Treasury are 6 percent higher than Alternative C and 19 percent more than Current Direction Alternative A. Discounted benefits for recreation and wildlife are \$340.3 million, an increase of less than 1 percent from the Maximum PNV Benchmark. This slight increase in benefits is primarily due to increased improvement in big-game (elk) habitat. Potential of anadromous fisheries and their value are significantly decreased. This alternative has the lowest potential fisheries of all of the alternatives. Income transfers are \$345.6 million, a 10 percent decrease from Alternative C.

Following is a summary of the major nonpriced outputs in Alternative B.

(1) Community Stability

Potential employment in the regional area increases by 885 jobs in the first decade above the base year (1980) level, a 29 percent increase. Communities within the local area increase in size and change somewhat in character. Employment levels in subsequent decades show a continuing increase in employment and income, primarily as a result of increases in timber harvest levels and Forest Service expenditures. For example, potential employment in the regional area expands by 4,453 jobs in the fifth decade. Payments to the counties in the first decade increase by 5 percent over Alternative C and 18 percent over Current Direction Alternative A.

(2) Semiprimitive Recreation

This alternative does not provide any semiprimitive recreation. None of the current roadless areas are designated to any management which would create opportunities for semiprimitive recreation.

(3) Wilderness

In Alternative B opportunities for wilderness recreation remain unchanged. The Selway-Bitterroot Wilderness is the only designated wilderness in the Forest. This alternative provides the lowest opportunity for wilderness/roadless recreation with only 259,165 acres or 14 percent of the Forest available.

(4) Wildlife (Elk) Habitat

This alternative eventually accesses 950,300 acres or 79 percent of current roadless and wilderness areas. Twenty-one percent or 259,200 acres remain unroaded. This alternative produces 18,000 elk in the first decade and 19,000 elk in the third decade; a 12 percent increase in decade one over Alternative A and a five percent decrease in decade three.

(5) Visual Quality

In this alternative, 80,300 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention. This alternative also allows for 1,073,000 acres to be managed to achieve the VQO's of modification and maximum modification.

(6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks last in the production of steelhead trout. Steelhead trout potential in decade five is 137,000 smolts per year.

Alternative B ranks twelfth among the twelve alternatives in the production of

chinook salmon with a potential of 188,700 smolts per year in decade five.

Resident fish production is 508,600 fish per year in decade five which ranks Alternative B ninth in the production of resident fish.

#### (7) Old Growth

A total of 625,000 acres or 34 percent are maintained in old-growth habitat by the end of the planning period. This is the second lowest level of all the alternatives which is a result of the increase in suitable acres for timber harvest.

#### (8) Special Areas

This alternative designates the same amount of acres to research natural areas as the current level.

### Alternative G

PNV: \$1,127.8 million

Reduction in PNV from Maximum PNV Benchmark: \$192.3 million

This alternative emphasizes market values on existing roaded areas while providing a significant wilderness. The decrease in PNV represents a 15 percent reduction from the Maximum PNV Benchmark. The reduced PNV is a result of increasing fisheries habitat requirements to low fishable (except minimum viable in the Palouse District) and reducing 287,500 acres of lands suitable for timber harvest. This reduces discounted timber benefits by 27 percent or \$442.4 million and decreases the LTSY to 441.8 MMBF. Timber harvests volumes vary from 191 MMBF in the first decade to 490 MMBF at the end of the planning period (decade 15). First decade returns to the U.S. Treasury decrease by 11 percent from Alternative B and increase 6 percent more than the Current Direction Alternative A. Discounted benefits for recreation, wildlife, and fisheries are \$372.6 million, a 10 percent increase from the Maximum PNV Benchmark. This increase is a result of increased potential of anadromous fisheries, increased improvement big-game habitat, and an increase in the capacity of wilderness opportunities. Income transfers are \$381.2 million, a 10 percent increase over Alternative B.

Following is a summary of the major nonpriced outputs in Alternative G.

#### (1) Community Stability

Potential employment in this regional area increases by 476 jobs in the first decade above the base year (1980) level, a 16 percent increase. Employment levels in subsequent decades increase substantially. For example, potential employment in the regional area increases by 3,739 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payments to the counties in the first decade decrease by 9 percent from Alternative B but increase by 10 percent over the current direction (Alternative A).

## (2) Semiprimitive Recreation

Alternative G does not provide any semiprimitive recreation. None of the current roadless area is managed to create opportunities for semiprimitive recreation. This is partially offset by the increase in wilderness recreation.

## (3) Wilderness

In Alternative G, wilderness recreation increases by recommending 453,997 acres to wilderness. The total wilderness acreage is 713,162 acres or 59 percent of the present roadless area or 39 percent of the total Forest. This provides the third highest wilderness recreation of all alternatives.

## (4) Wildlife (Elk) Habitat

This alternative eventually accesses 493,300 acres or 41 percent of current roadless and wilderness areas. This will produce 18,000 elk in both the first and third decade for an increase of 12 percent over Alternative A in decade one and a 10 percent decrease in decade three.

## (5) Visual Quality

In Alternative G, 134,600 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention. This alternative also allows for 824,900 acres of modification and maximum modification VQO's.

## (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks eighth in the production of steelhead trout. Steelhead trout potential in decade five is 222,200 smolts per year.

Alternative G ranks sixth out of the twelve alternatives in the production of chinook salmon with a potential of 340,700 smolts per year in decade five.

Resident fish production is 468,700 fish per year in decade five which ranks Alternative G last in the production of resident fish.

## (7) Old Growth

A total of 728,000 acres or 40 percent is maintained in old-growth habitat by the end of the planning period which ranks this alternative seventh in the amount of old growth provided. This small acreage is a result of the increase in suitable acres for timber harvest.

## (8) Special Areas

This alternative adds 3,976 acres to RNA's from the current level.

## Alternative K (Preferred Alternative)

PNV: \$1,124.1 million

Reduction in PNV from Maximum PNV Benchmark: \$196.0 million

This alternative was developed as a result of public comments on the Draft EIS. The decrease in PNV represents a 17 percent reduction from the Maximum PNV Benchmark. The reduction in PNV is a result of increasing fisheries habitat requirements to high fishable in all districts including Lolo and Elk Creek, (except minimum viable on the rest of the Palouse District, low fishable in the roaded portion of the Pierce District, and moderate fishable in Beaver Creek on the Canyon District), increasing the wilderness and roadless designations, applying a regeneration harvest constraint, changing the suitable timber base, and changing the FORPLAN model assumptions and management costs. Discounted timber benefits are reduced by 28 percent to \$1198.9 million. Timber harvest volume begins at 173 MMBF per year in decade one and reaches its LTSY level of 440 MMBF per year by decade five. Returns to the U.S. Treasury in decade one decreases by 12 percent when compared to the Current Direction Alternative and 18 percent less than Alternative G. Discounted benefits for recreation, wildlife, and fisheries are \$387.9 million, a 14 percent increase over the Maximum PNV Benchmark. The increase is due to increases in wilderness and semiprimitive recreation, hunter recreation, and anadromous fish. This emphasis on nonmarket priced outputs results in income transfers of \$403.6 million, the highest of all alternatives.

Following is a summary of the major nonpriced outputs in Preferred Alternative K.

### (1) Community Stability

Employment in the region increases by 357 jobs in the first decade above the base year (1980) level, a 12 percent increase. Employment levels in subsequent decades also increase; by decade five the number of jobs is up 4437 over the 1980 base level. The increase in absolute jobs is greatest in the wood products sector. Payment to the counties in decade one averages \$3.6 million per year ranking this alternative seventh among the twelve alternatives.

### (2) Semiprimitive Recreation

Approximately 242,200 acres remain roadless in Alternative K which is about 13 percent of the total Forest acreage. It ranks third among all the alternatives for providing semiprimitive recreation.

### (3) Wilderness

This alternative proposes an increase of 198,200 acres for wilderness for a total of 457,365 acres or 38 percent of the total roadless area. This provides for the sixth highest wilderness of all alternatives. This combined with the roadless areas brings the total wilderness/unroaded management acreage to 683,665 acres or 37 percent of the Forest.

#### (4) Wildlife (Elk) Habitat

This alternative allows access of 525,800 acres of 43 percent of the current roadless area (including wilderness). However, due to the road closure policy elk herds are expected to increase over the Current Direction Alternative A. The elk numbers in decade one in this alternative are 18,000 elk, a 12 percent increase over Alternative A. By the third decade it produces more elk than any other alternative (29,000 elk), an increase of 45 percent over Alternative A.

#### (5) Visual Quality

In Preferred Alternative K, 182,000 acres designated for timber harvest is managed to achieve the VQO's of retention and partial retention. In addition 805,900 acres of suitable base is managed to achieve modification and maximum modification.

#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks sixth in the production of steelhead trout. Steelhead trout potential in decade five is 238,200 smolts per year.

It also ranks sixth out of the twelve alternatives in the production of chinook salmon with a potential of 353,000 smolts per year in decade five.

It ranks tenth in the production of resident fish with 494,600 fish per year in decade five.

#### (7) Old Growth

Preferred Alternative K ranks last in the amount of suitable land in old growth. Thirty percent of the total Forest acreage or 558,000 acres are in old growth in decade ten. This is a result of managing more acres under uneven-aged management.

#### (8) Special Areas

This alternative designates 9,636 acres to research natural areas which is 8,355 acres above the current levels and is first among the alternatives for total acres designated to this management.

#### Alternative J

PNV: \$1,095.4 million

Reduction in PNV from Maximum PNV Benchmark: \$224.7 million

This alternative is similar to Alternatives D, E, and E1 in outputs but provides for greater wilderness. The decrease in PNV represents a 17 percent reduction from the Maximum PNV Benchmark. The reduced PNV is a result of increasing



fisheries habitat requirements to high fishable (except minimum viable fisheries in Palouse District, moderate fishable in Lolo Creek and low fishable in the roaded area in the Pierce District) and reducing 299,300 acres of lands suitable for timber harvest. This reduces discounted timber benefits by 31 percent or \$511.8 million and decreases the LTSY to 431.2 MMBF. Timber harvest volumes vary from 176 MMBF in the first decade to 481 MMBF in the 15th decade. First decade returns to the U.S. Treasury increase by 7 percent from Preferred Alternative K and are 6 percent less than current direction. Discounted benefits for recreation, wildlife, and fisheries are \$391.0 million, a 15 percent increase from the Maximum PNV Benchmark. This increase is a result of increased potential of anadromous fisheries, big-game habitat, and capacity for wilderness recreation. As a result, income transfers are \$401.1, the second highest of all alternatives.

The following is a summary of the major nonpriced outputs in Alternative J.

#### (1) Community Stability

Potential employment in the regional area increases by 302 jobs in the first decade above the base year (1980) level, a 10 percent increase. Employment levels in subsequent decades increase substantially. For example, potential employment in the regional area increases by 3,340 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payment to the counties in the first decade increase by 5 percent from Alternative K (Preferred Alternative) and decrease by 3 percent from the Current Direction Alternative A.

#### (2) Semiprimitive Recreation

Alternative J ranks sixth designating 168,900 acres or 18 percent of the Forest to prescriptions which allow semiprimitive recreation.

#### (3) Wilderness

In this alternative, wilderness recreation increases by recommending 258,289 acres to wilderness. This brings the total wilderness acreage to 517,454 acres or 43 percent of the present roadless area, and provides for the fifth highest wilderness recreation of all alternatives. An additional 168,900 acres will continue to be managed as roadless, bringing the total wilderness/roadless acreage to approximately 686,374 acres or 37 percent of the Forest.

#### (4) Wildlife (Elk) Habitat

This alternative eventually accesses 43 percent of the current roadless area (including wilderness). This alternative produces 19,000 elk in the first decade and 26,000 elk in the third decade, a 30 percent increase over Alternative A by decade three.

#### (5) Visual Quality

In Alternative J, 165,600 acres are designated to VQO's of retention and partial retention. This alternative also allows 783,600 acres to the VQO's of

modification and maximum modification.

#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks third in the production of steelhead trout. Steelhead trout potential in decade five is 243,000 smolts per year.

Alternative J ranks second out of the twelve alternatives in the production of chinook salmon with a potential of 361,700 smolts per year in decade five.

Resident fish production is 533,900 fish per year in decade five. This ranks Alternative J tenth in the production of resident fish.

#### (7) Old Growth

In this alternative, 41 percent or 750,000 acres is maintained in old-growth habitat by the end of the planning period. This is a moderate level of old-growth habitat. This acreage is a result of the increase acres suitable for timber harvest.

#### (8) Special Areas

This alternative increases research natural areas by 4,651 acres to 5,932 acres.

#### Alternative A (Current Direction)

PNV: \$1,093.8 million

Reduction in PNV from Maximum PNV Benchmark: \$226.3 million

This alternative continues current management direction and reflects the current level of goods and services. The decrease in PNV of Alternative A represents a 17 percent reduction from the Maximum PNV Benchmark. This reduction is a result of increasing fisheries habitat requirements from minimum viable to moderate fishable (except min. viable in the Palouse District and 50-60 percent fisheries in the roaded portion of the Pierce District) and reducing 207,000 acres of lands suitable for timber harvest. This reduces discounted timber benefits by 29 percent to 1,182.9 million dollars and decreases long-term sustained yield (LTSY) to 463.5 MMBF. Timber harvest volumes vary from 181 MMBF in the first decade to 519 MMBF in the last decade (decade 15). First decade returns to the U.S. Treasury increase by 6 percent over Alternative J but decrease by 41 percent from the Maximum PNV Benchmark. Total benefits for recreation, wildlife and fisheries are \$370.6 million, a 13 percent increase from the Maximum PNV Benchmark. The increase in these benefits is primarily due to increased improvements in big-game (elk) habitat, increase in potential of anadromous fisheries, and an increase in the capacity of wilderness and semiprimitive recreation. Income transfers are \$379.2 million, a 6 percent decrease from Alternative J.

Following is a summary of the major nonpriced outputs in Alternative A.

#### (1) Community Stability

Potential employment in the regional area increases by 345 jobs in the first decade above the base year (1980) level, an 11 percent increase. Employment levels in subsequent decades increase substantially. For example, potential employment in the regional area increases by 3,460 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payments to the counties in the first decade will increase by 3 percent over Alternative J but will decrease by 43 percent over the Maximum PNV Benchmark.

#### (2) Semiprimitive Recreation

This alternative ranks seventh among alternatives in the opportunity for semiprimitive recreation; 92,400 acres or 10 percent of the Forest is designated to prescriptions which allow opportunities for semiprimitive recreation. There is also an increase of opportunities for wilderness recreation.

#### (3) Wilderness

Wilderness recreation increases by adding 190,354 acres of the four areas recommended for wilderness in RARE II. In this alternative, total wilderness acreage will be 449,519 acres or 37 percent of the current roadless area. With the additional roadless acres, the total wilderness/roadless acreage is approximately 542,245 acres or 30 percent of the Forest.

#### (4) Wildlife (Elk) Habitat

This alternative eventually accesses 667,600 acres or 55 percent of current roadless area (including wilderness). Alternative A produces 16,000 elk in the first decade and 20,000 elk in the third decade.

#### (5) Visual Quality

In this alternative, 154,900 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention. This alternative will also allow for 885,800 acres to be managed to achieve the VQO's of modification and maximum modification.

#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks tenth in the production of steelhead trout. Steelhead trout potential in decade five is 205,500 smolts per year.

Alternative A ranks ninth out of the twelve alternatives in the production of chinook salmon with a potential of 340,200 smolts per year in decade five.

Resident fish production is 509,700 fish per year in decade five which ranks

Alternative A eighth in the production of resident fish.

#### (7) Old Growth

In Alternative A, 39 percent or 725,000 acres are maintained in old-growth habitat by the end of the planning period. This is the fifth lowest level of all alternatives.

#### (8) Special Areas

This alternative proposes no new special areas.

### Alternative D

PNV: \$1,089.2 million

Reduction in PNV from Maximum PNV Benchmark: \$230.9 million

The decrease in PNV of this alternative represents an 17 percent reduction from the Maximum PNV Benchmark. The reduction is a result of increasing fisheries habitat requirements to high fishable (except min. viable in the Palouse District, moderate fishable in Lolo Creek and low fishable in the roaded portion of the Pierce District) and reducing 307,000 acres of lands suitable for timber harvest. This reduces discounted timber benefits by 31 percent or \$513.4 million and decreases the LTSY to 428.7 MMBF. Timber harvest volumes vary from 176 MMBF in the first decade to 478 MMBF at the end of the planning period. First decade returns to the U.S. Treasury decrease by 6 percent over the Current Direction Alternative A. Total benefits for recreation, wildlife, and fisheries are \$386.7 million, a 14 percent increase from the Maximum PNV Benchmark. This increase is a result of increased potential anadromous fisheries, increased improvement of big-game (elk) habitat, and an increase in the capacity of wilderness and semiprimitive recreation. Income transfers are \$396.3 million, a 4 percent increase over Alternative A.

Following is a summary of the major nonpriced outputs in Alternative D.

#### (1) Community Stability

Potential employment in the regional area increases by 302 jobs in the first decade above the base year (1980) level, a 10 percent increase. Employment levels in subsequent decades increase substantially. For example, potential employment in the regional area increases by 3,335 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payments to the counties in the first decade decrease by 3 percent from Alternative A (current direction).

#### (2) Semiprimitive Recreation

This alternative ranks first in providing opportunity for semiprimitive recreation; 293,300 acres or 16 percent of the Forest is designated to prescriptions which allow opportunities for semiprimitive recreation.

### (3) Wilderness

In Alternative D, wilderness recreational opportunities increase by adding 130,430 acres. The total wilderness acreage will be 389,595 acres or 32 percent of the present roadless area. This provides for the third lowest wilderness of all alternatives. However, this is partially offset by an additional 293,300 acres which will continue to be managed as roadless, bringing the total wilderness/roadless management acreage to approximately 682,832 acres or 37 percent of the Forest.

### (4) Wildlife (Elk) Habitat

Alternative D eventually accesses 525,900 acres or 43 percent of current roadless area (including wilderness). Fifty-seven percent or 682,900 acres remain unroaded. This alternative produces 19,000 elk in the first decade and 26,000 elk in the third decade, a 30 percent increase over Alternative A by the third decade.

### (5) Visual Quality

In this alternative, 159,100 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention. This alternative also allows for 781,800 acres to be managed to achieve the VQO's of modification and maximum modification.

### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks third in the production of steelhead trout. Steelhead trout potential in decade five is 243,000 smolts per year.

Alternative D ranks second out of the twelve alternatives in the production of chinook salmon with a potential of 361,700 smolts per year in decade five.

Resident fish production is 535,400 fish per year in decade five which ranks Alternative D second in the production of resident fish.

### (7) Old Growth

In Alternative D, 41 percent or 753,000 acres are maintained in old-growth habitat by the end of the planning period.

### (8) Special Areas

This alternative designates 5,932 acres to research natural areas.

## Alternative E (Proposed Action of the DEIS)

PNV: \$1,053.7 million

Reduction in PNV from Maximum PNV Benchmark: \$266.4 million

The decrease in PNV of this alternative represents a 20 percent reduction from the Maximum PNV Benchmark. The reduction in PNV is a result of increasing fisheries habitat requirements to high fishable for all roadless areas and minimum viable for roaded areas in the Palouse District (except low fishable in Pierce District; high fishable in Elk Creek; no constraints in the remainder of Palouse District; high fishable in roaded portions of North Fork, and Powell Districts; and moderate fishable in the roaded portion of Lochsa District) and reducing 251,000 acres of lands suitable for timber harvest. This reduces discounted timber benefits by 34 percent or \$562.7 million and decreases the LTSY to 448.1 MMBF. Timber harvest volumes vary from 160 MMBF in the first decade to 495 MMBF at the end of the planning period. First decade returns to the U.S. Treasury decreases by 7 percent over Alternative D and are 13 percent less than Alternative A (current direction). Discounted benefits for recreation, wildlife, and fisheries are \$389.3 million, a 15 percent increase from the Maximum PNV Benchmark. This increase is a result of increased potential of anadromous fisheries, increased improvement in big-game (elk) habitat, and an increase in the capacity of wilderness and semiprimitive recreation. Income transfers are \$399.4 million, the third highest of all alternatives.

Following is a summary of the major nonpriced outputs for Alternative E.

### (1) Community Stability

Potential employment in the regional area increases by 94 jobs in the first decade above the base year (1980) level, a 3 percent increase. Employment levels in subsequent decades increase substantially. For example, potential employment in the regional area increases by 2,954 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payments to the counties in the first decade decrease by 8 percent from Alternative D and decrease 10 percent from Alternative A (current direction).

### (2) Semiprimitive Recreation

In this alternative 188,400 acres or 10 percent of the Forest is designated to prescriptions which allow opportunities for semiprimitive recreation. This alternative ranks fourth in providing semiprimitive recreation.

### (3) Wilderness

In Alternative E, wilderness increases by adding 188,871 acres. The total wilderness acreage will be 448,036 acres or 37 percent of the present roadless area. This provides for the eighth highest wilderness of all alternatives. An additional 188,411 acres will continue to be managed as roadless, bringing the total wilderness/ roadless management acreage to approximately 636,447 acres or 35 percent of the Forest.

#### (4) Wildlife (Elk) Habitat

This alternative eventually accesses 573,000 acres or 47 percent of the current wilderness and roadless area. This alternative produces 19,000 elk in the first decade and 27,000 elk in the third decade, a 35 percent increase from Current Direction Alternative A by decade three. Fifty-three percent or 636,500 acres remain unroaded.

#### (5) Visual Quality

In Alternative E, 184,600 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention. This alternative also allows for 810,000 acres to be managed to achieve modification and maximum modification VQO's.

#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks first in the production of steelhead trout. Steelhead trout potential in decade five is 249,000 smolts per year.

Alternative E ranks first out of the twelve alternatives in the production of chinook salmon with a potential of 367,300 smolts per year in decade five.

Resident fish production is 535,400 fish per year in decade five which ranks Alternative E second in the production of resident fish.

#### (7) Old Growth

A total of 764,000 acres or 41 percent acres are maintained in old-growth habitat by the end of the planning period.

#### (8) Special Areas

This alternative designates 5,932 acres to research natural areas.

### Alternative F

PNV: \$1,007.1 million

Reduction in PNV from Maximum PNV Benchmark: \$313.0 million

The decrease in PNV of this alternative represents a 24 percent reduction from the Maximum PNV Benchmark. The reduction is a result of increasing fisheries habitat requirements to high fishable (except minimum viable in the Palouse District, moderate fishable in Lolo Creek and low fishable in the roaded portion of the Pierce District) and a reduction of 449.1 suitable acres for timber harvest. This reduces discounted timber benefits by 38 percent or \$629.3 million and decreases the long-term sustained yield (LTSY) to 361.1 MMBF.

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Timber harvest volumes vary from 160 MMBF in the first decade to 400 MMBF in the fifteenth decade. First decade returns to the U.S. Treasury are the same as Alternative E, but 12 percent less than Current Direction Alternative A. Discounted benefits for recreation, wildlife, and fisheries are \$388.3 million, an 15 percent increase from the Maximum PNV Benchmark. This increase is a result of increased potential of anadromous fisheries, increased improvement of big-game (elk) habitat, and an increase in the capacity of wilderness and semiprimitive recreation. Income transfers are \$398.8, a small decrease from the previous alternative.

Following is a summary of the major nonpriced outputs in Alternative F.

#### (1) Community Stability

Potential employment in the regional area increases by 94 jobs in the first decade above the base year (1980) level, a 3 percent increase. Employment levels in subsequent decades increase substantially; for example, potential employment in the regional area increases by 2,969 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payments to the counties in the first decade are the same as Alternative E, but will decrease by 10 percent from the Current Direction Alternative.

#### (2) Semiprimitive Recreation

Alternative F designates 290,500 acres or 16 percent of the Forest to prescriptions which allow opportunities for semiprimitive recreation. This alternative provides the second largest acreage of semiprimitive recreational setting of all the alternatives.

#### (3) Wilderness

Opportunities for wilderness recreation increase by adding 297,248 acres of the current roadless area. The total wilderness acreage is 556,413 acres or 46 percent of the present roadless area. This provides for the fourth highest wilderness of all alternatives. An additional 290,474 acres will continue to be managed as roadless, bringing the total wilderness/unroaded management acreage to about 846,887 acres.

#### (4) Wildlife (Elk) Habitat

Approximately 359,600 acres or 30 percent of current roadless and wilderness acres are accessed. Seventy percent or 846,900 acres remain unroaded. Alternative F produces 21,000 elk in the first decade and 22,000 elk in the third decade.

#### (5) Visual Quality

In this alternative, 135,500 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention while 657,700 acres are managed to achieve the VQO's of modification and maximum modification.



#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks fifth in the production of steelhead trout. Steelhead trout potential in decade five is 242,200 smolts per year.

Alternative F ranks fifth out of the twelve alternatives in the production of chinook salmon with a potential of 342,100 smolts per year in decade five.

Resident fish production is 533,900 fish per year in decade five which ranks Alternative F sixth in the production of resident fish.

#### (7) Old Growth

About 44 percent or 800,000 acres are maintained in old-growth habitat by the end of the planning period. This is the third highest level of all alternatives.

#### (8) Special Areas

This alternative designates 7,651 more acres than current to research natural areas for a total of 8,032 acres.

### Alternative H

PNV: \$898.4 million

Reduction in PNV from Maximum PNV Benchmark: \$421.7 million

Alternative H produces a moderate level of market values and high levels of nonmarket goods from the undeveloped portion of the Forest. The decrease in PNV represents a 32 percent reduction from the Maximum PNV Benchmark. The reduction is a result of increasing fisheries habitat requirements to high fishable (except moderate fishable in the roaded portion of the Pierce District and low fishable in Palouse District) and reducing 554,000 acres of lands suitable for timber harvest. This reduces discounted timber benefits by 46 percent or \$756.8 million and decreases the LTSY to 315.8 MMBF. Timber harvest volumes vary from 139 MMBF in the first decade to 352 MMBF in the final period. First decade returns to the U.S. Treasury decrease by 14 percent from Alternative F and by 25 percent from the Current Direction Alternative A. Total benefits for recreation, wildlife, and fisheries are \$380.6 million, a 12 percent increase from the Maximum PNV Benchmark and the second highest nonmarket value of all the alternatives. This increase is a result of increased potential of anadromous fisheries, improvement of big-game habitat, and capacity for wilderness opportunities. Income transfers are \$391.7 million, a 2 percent decrease from Alternative F.

Following is a summary of the major nonpriced outputs in Alternative H.

#### (1) Community Stability

Potential employment in the regional area decreases by 141 jobs in the first decade above the base year (1980) level, a 5 percent decrease. Employment levels in subsequent decades increase substantially; for example, potential employment in the regional area increases by 2,511 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payments to the counties in the first decade are 14 percent less than Alternative F and 25 percent less than current direction (Alternative A).

#### (2) Semiprimitive Recreation

Alternative H designates 14,383 acres or 1 percent of the Forest to prescriptions which allow semiprimitive recreation.

#### (3) Wilderness

Opportunities for wilderness recreation increase by 715,523 acres. The total wilderness acreage is 974,688 acres or 81 percent of the present roadless area which is the second highest wilderness opportunity of all alternatives. An additional 14,383 acres will continue to be managed as unroaded, bringing the total wilderness/unroaded acreage to approximately 989,071 acres or 54 percent of the Forest.

#### (4) Wildlife (Elk) Habitat

This alternative eventually accesses 219,800 acres or 18 percent of current roadless and wilderness area. Eighty-two percent or 989,071 acres remain unroaded. This alternative produces 17,000 elk in the first decade and 21,000 elk in the third decade, a 5 percent increase from current management.

#### (5) Visual Quality

In Alternative H, 121,300 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention. This alternative also allows 543,800 acres to be managed to modification and maximum modification VQO's.

#### (6) Fisheries (Anadromous and Resident)

As a result of public comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks seventh in the production of steelhead trout. Steelhead trout potential in decade five is 227,500 smolts per year.

Alternative H ranks second out of the twelve alternatives in the production of chinook salmon with a potential of 361,700 smolts per year in decade five.

Resident fish production is 534,100 fish per year in decade five which ranks Alternative H fifth in the production of resident fish.

#### (7) Old Growth

About 46 percent or 855,000 acres is maintained in old-growth habitat by the end of the planning period. This is the second highest level of all alternatives.

#### (8) Special Areas

This alternative proposes the maximum acres to research natural areas of all alternatives. A total of 8,932 acres are designated to research natural areas.

### Alternative I

PNV: \$753.5 million

Reduction in PNV from Maximum PNV Benchmark: \$556.6 million

This alternative provides the maximum opportunities for wilderness recreation possible while producing a moderate level of market outputs from lands not designated to wilderness. This alternative has the lowest PNV of all the alternatives and the decrease in PNV represents a 43 percent reduction from the Maximum PNV Benchmark. The foregone value is a result of increasing fisheries habitat requirements to high fishable (except moderate fishable roaded in the Pierce District and low fishable in Palouse District) and reducing 700,000 acres of lands suitable for timber harvest. This reduces discounted timber benefits by 56 percent or \$934.0 million and decreases the LTSY to 254.8 MMBF. Timber harvest volumes range from 117 MMBF in the first decade to 282 MMBF in the final period. First decade returns to the U.S. Treasury decrease by 17 percent from Alternative H and by 38 percent from the Current Direction Alternative A. Discounted benefits for recreation, wildlife, and fisheries are \$377.2 million, an 11 percent increase from the Maximum PNV Benchmark. This increase is a result of increased potential of anadromous fisheries, improvements of big-game habitat, and increased capacity for wilderness recreation. Income transfers are \$389.4 million, a slight decrease from the previous alternative, but a 17 percent increase from the Maximum PNV Benchmark.

The following is a summary of the major nonpriced outputs in Alternative I.

#### (1) Community Stability

Potential employment in the regional area decreases by 400 jobs in the first decade above the base year (1980) level, a 13 percent decrease. Employment levels in subsequent decades increase substantially. For example, potential employment in the regional area increases by 2,026 jobs in the fifth decade. This increase is primarily a result of the higher timber harvest levels. Payments to the counties in the first decade decrease by 17 percent from Alternative H and are 36 percent less than the Current Direction Alternative A.

## (2) Semiprimitive Recreation

Alternative I does not provide any semiprimitive recreation. None of the current roadless area is managed for semiprimitive recreation.

## (3) Wilderness

Since this is the Maximum Wilderness Alternative, opportunities for wilderness recreation increase by 950,311 acres. This is a 100 percent of the current roadless area or 66 percent of the Forest land base.

## (4) Wildlife (Elk) Habitat

Alternative I does not access any additional current roadless area. This alternative produces 15,000 elk in the first decade and 17,000 elk in the third decade which ranks it last among all alternatives for producing elk.

## (5) Visual Quality

In this alternative, 65,000 acres designated for timber harvest are managed to achieve the VQO's of retention and partial retention. This alternative also allows for 543,800 acres to be managed to modification and maximum modification VQO's.

## (6) Fisheries (Anadromous and Resident)

As a result of comments on the DEIS, anadromous fish numbers have been separated into steelhead trout and chinook salmon. Estimates of production for both anadromous smolt and resident fish reach a constant level by decade five.

This alternative ranks second in the production of steelhead trout. Steelhead trout potential in decade five is 243,400 smolts per year.

Alternative I ranks fifth out of the twelve alternatives in the production of chinook salmon with a potential of 360,800 smolts per year in decade five.

Resident fish production is 534,800 fish per year in decade five which ranks Alternative I fourth in the production of resident fish.

## (7) Old Growth

About 52 percent or 954,000 acres is maintained in old-growth habitat by the end of the planning period. This is the highest level of all alternatives.

## (8) Special Areas

This alternative designates 8,982 acres to research natural areas which is 7,700 acres above the current level.

#### d. Timber Resource Land Suitability

The National Forest Management Act (NFMA) identifies the process to use in differentiating between land that is and could be suitable, and land that is unsuitable for timber production and management. (See 36 CFR 219.14).

During the first phase, the Clearwater identified three out of the four possible categories of tentatively unsuitable land. This included:

1. nonforest land which generally includes grasslands, roads, water, etc.;
2. lands where there is no reasonable assurance that adequate restocking can be provided; and
3. land withdrawn from timber production by acts of Congress, Secretary of Agriculture, or Chief of the Forest Service. This includes the Selway-Bitterroot Wilderness and the original Mallard-Larkins Pioneer Area.

During the second phase which occurred while formulating alternatives, three categories of unsuitable land were identified. These are:

1. Lands which preclude timber production. This includes recommended wilderness, roadless or developed recreation, or wildlife and fish habitat management. (See Management Areas B2, A3, A5, C1, and M1 in the Forest Plan.)
2. Lands where management objectives limit timber production activities to the point that commercial timber management cannot be achieved. (See Management Areas A2, A7, and C3 in the Forest Plan.)
3. Lands which are not cost efficient over the planning horizon in meeting Forest objectives which includes timber production. (See Management Area M6 in the Forest Plan.)

Table II-23 on the following page shows the breakdown by alternative and the acres of suitable and unsuitable land by categories.

Table II-23

## Timber Resource Land Suitability

Classification (M Acres)		Alternatives											
		A	B	C	D	E	E1	F	G	H	I	J	K
1	Nonforest Land (includes water)	24 4	24 4	24 4	24 4	24 4	24 4	24 4	24 4	24 4	24 4	24 4	24 4
2	Forest Land	1812 7	1812 7	1812 7	1812 7	1812 7	1812 7	1812 7	1812 7	1812 7	1812 7	1812 7	1812 7
3	Forest Land Withdrawn from Timber Production	276 9	276 9	276 9	276 9	276 9	276 9	276 9	276 9	276 9	276 9	276 9	276 9
4	Forest Land Not Producing Crops of Industrial Wood	147 8	147 8	147 8	147 8	147 8	147 8	147 8	147 8	147 8	147 8	147 8	147 8
5	Forest Land Physically Not Suited/Irreversible Damage Likely to Occur/Not Restockable Within 5 yrs	52 0	52 0	52 0	52 0	52 0	52 0	52 0	52 0	52 0	52 0	52 0	52 0
6	Forest Land - Inadequate Information *	00 0	00 0	00 0	00 0	00 0	00 0	00 0	00 0	00 0	00 0	00 0	00 0
7	Tentatively Suitable Forest Land (item 2 minus items 3,4,5, and 6)	1336 1	1336 1	1336 1	1336 1	1336 1	1336 1	1336 1	1336 1	1336 1	1336 1	1336 1	1336 1
8	Forest Land Not Appropriate for Timber Production **	295 0	183 0	201 7	395 0	338 6	327 8	542 9	376 4	642 1	788 5	386 8	348 3
9	Not Suited Forest Land *** (Item 3,4,5,6, and 8)	771 7	659 7	678 4	871 7	815 3	804 5	1019 6	853 1	1118 8	1265 2	863 5	825 0
10	Total Suitable Forest Land (Item 2 minus 9)	1041 0	1153 0	1134 3	941 0	997 4	1008 2	793 1	959 6	693 9	547 5	949 2	987 7
11	Total Net National Forest Area (Item 1 and 2)	1837 1	1837 1	1837 1	1837 1	1837 1	1837 1	1837 1	1837 1	1837 1	1837 1	1837 1	1837 1

\* Lands for which current information is inadequate to project responses to timber management

\*\* Lands identified as not appropriate for timber production due to (1) assignment to other resource uses to meet Forest Plan objectives, (2) assignment to other uses to meet management requirements, or (3) not cost efficient in meeting Forest Plan objectives over the planning horizon

\*\*\* Lands identified as not suited for timber production are examined every ten years and analyzed through the land management planning process to determine their suitability for timber production

## 19. Output Summary of the Alternatives

Table II-24 provides a summary of the estimated resource production levels and effects for the Minimum Level and Maximum PNV Benchmarks, and all alternatives considered in detail. The planned average annual outputs and effects are displayed for decade one and projected for decades two through five, ten, and fifteen.

Between the DEIS and FEIS, the following changes have been made in Table II-24:

- The Preferred Alternative K has been added.
- Steelhead and chinook smolt numbers have been separated and updated.
- Corrections have been made in numbers where errors were found.

A list of outputs in the order that they appear in Table II-24 follows, all dollars are in 1978 dollars.

- Page 148: Developed Recreation - Thousands of Recreation Visitor Days  
Semiprimitive Recreation (Outside Wilderness) - Thousands of Recreation Visitor Days  
Roaded Natural Recreation - Thousands of Recreation Visitor Days  
Wilderness Recreation - Thousands of Recreation Visitor Days
- Page 149: Total Dispersed Recreation - Thousands of Recreation Visitor Days  
Hunter Recreation - Thousands of Recreation Visitor Days  
Fishing Recreation - Thousands of Recreation Visitor Days  
Wilderness Management - Thousands of Acres  
Unroaded Management - Thousands of Acres  
Visual Quality on Suitable Timberland - Thousands of Acres
- Page 150: Total Trails - Miles  
Elk Habitat-Summer - Thousands of Elk  
Elk Habitat-Winter - Thousands of Elk  
Elk Habitat Potential - Thousands of Elk  
Elk Winter Habitat Improvement - Acres
- Page 151: Anadromous Fish - Steelhead Trout Potential - Thousands of Smolts  
Anadromous Fish - Chinook Salmon Potential - Thousands of Smolts  
Resident Fish - Catchable Trout Potential - Thousands of Fish  
Fish Habitat Improvement Decade 1 - Acres
- Page 152: Gray Wolf - Wolves  
Old Growth on All Lands - Thousands of Acres  
Projected Grazing Use - Thousands of Animal Unit Months  
Potential Grazing Use - Thousands of Animal Unit Months  
Suitable Timberland - Thousands of Acres  
Allowable Sale Quantity - Millions of Cubic Feet  
Projected Sale Quantity - Millions of Cubic Feet
- Page 153: Allowable Sale Quantity - Millions of Board Feet  
Projected Sale Quantity - Millions of Board Feet  
Timber Harvest - Thousands of Acres  
Clearcutting - Thousands of Acres  
Shelterwood - Thousands of Acres

Page 154: Selection - Thousands of Acres  
           Commercial Thinning - Thousands of Acres  
           Long-Term Sustained Yield - Millions of Cubic Feet  
           Long-Term Sustained Yield - Millions of Board Feet  
           Reforestation - Acres

Page 155: Timber Stand Improvement - Acres  
           Sediment Above Natural - Thousands of Tons  
           Water Quality/Fishery Standards for Anadromous Habitat - Percent of Watershed Acres  
           Water Quality/Fishery Standards for Resident Habitat - Percent of Watershed Acres

Page 156: Minerals Management - Cases  
           Locatable Minerals - Thousands of Acres

Page 157: Leasable Minerals - Thousands of Acres  
           Total Roads Needed for Management - Miles  
           Road Construction - Miles

Page 158: Arterial/Collector Road Construction - Miles  
           Local Road Construction - Miles  
           Purchaser Credit Road Construction - Miles  
           Capital Investment Road Construction - Miles

Page 159: Local Forest Related Employment - Jobs  
           Local Forest Related Income - Thousands of Dollars  
           Total Forest Service Costs - Thousands of Dollars  
           Road Costs - Thousands of Dollars  
           Recreational and Wildlife Costs - Thousands of Dollars

Page 160: Timber Costs - Thousands of Dollars  
           Range Costs - Thousands of Dollars  
           Other Costs - Thousands of Dollars  
           Purchaser Credit Road Costs - Thousands of Dollars

Page 161: Capital Investment Road Costs - Thousands of Dollars  
           Total Capital Investment Costs - Thousands of Dollars  
           Operation and Maintenance Costs - Thousands of Dollars  
           Returns to U.S. Treasury - Thousands of Dollars

Page 162: Returns to State/Counties - Thousands of Dollars  
           Special Use Returns - Thousands of Dollars  
           Range Returns - Thousands of Dollars  
           Timber Returns - Thousands of Dollars

Page 163: Market Resource Benefits - Thousands of Dollars  
           Non-Market Resource Benefits - Thousands of Dollars  
           Costs Discounted at 4% - Millions of Dollars  
           Benefits Discounted at 4% - Millions of Dollars  
           Present Value of the Benefits at 4% - Millions of Dollars  
           Present Value of the Costs at 4% - Millions of Dollars



Page 164: Present Net Value 4% - Millions of Dollars  
Opportunity Cost 4% - Millions of Dollars  
Benefit/Cost Ratio 4% - Millions of Dollars  
Research Natural Areas - Acres  
Forest Work Force - Work Year Equivalence  
Land Designations - Thousands of Acres

Page 165: Land Designations (Continued) - Thousands of Acres

Table II-24

RESOURCE BY BENCHMARKS/ALTERNATIVES  
(Figures are Average Annual by Decade)

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
<hr/>																
Developed Recreation	M RVD	166 2														
Decade 1			0	201 1	201 1	201 1	201 1	201 1	201 1	201 1	201 1	201 1	201 1	201 1	201 1	201 1
Decade 2			0	276 3	276 3	276 3	276 3	276 3	276 3	276 3	276 3	276 3	276 3	276 3	276 3	276 3
Decade 3			0	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2
Decade 4			0	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2
Decade 5			0	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2
Decade 10			0	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2
Decade 15			0	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2	369 2
Semiprimitive Recreation (Outside Wilderness)	M RVD	188 3														
Decade 1			199 6	199 6	147 8	199 6	185 4	158 6	148 9	148 9	114 3	50 6	2 2	0	126 7	131 4
Decade 2			247 5	221 0	183 3	221 0	216 7	196 7	184 6	184 6	141 7	55 6	2 7	0	157 1	162 9
Decade 3			294 5	110 5	177 7	110 5	124 5	234 0	219 7	219 7	168 7	27 8	3 2	0	171 0	193 8
Decade 4			331 5	0	113 9	0	32 4	279 6	241 1	241 1	205 8	0	3 4	0	129 3	236 6
Decade 5			331 5	0	113 9	0	32 4	279 6	241 1	241 1	209 5	0	3 4	0	129 3	262 2
Decade 10			331 5	0	113 9	0	32 4	279 6	241 1	241 1	209 5	0	3 4	0	129 3	262 2
Decade 15			331 5	0	113 9	0	32 4	279 6	241 1	241 1	209 5	0	3 4	0	129 3	262 2
Roaded Natural Recreation	M RVD	522 7														
Decade 1			555 9	555 9	555 9	555 9	555 9	555 9	555 9	555 9	555 9	555 9	555 9	555 9	555 9	555 9
Decade 2			689 4	689 4	689 4	689 4	689 4	689 4	689 4	689 4	689 4	689 4	689 4	689 4	689 4	689 4
Decade 3			820 4	820 4	820 4	820 4	820 4	820 4	820 4	820 4	820 4	820 4	820 4	820 4	820 4	820 4
Decade 4			1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9	1000 9
Decade 5			1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9	1220 9
Decade 10			3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6	3299 6
Decade 15			4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3	4025 3
Wilderness Recreation	M RVD	46 7														
Decade 1			51 7	51 7	103 5	51 7	68 1	93 8	103 5	103 5	138 1	231 8	249 1	251 3	125 7	121 0
Decade 2			76 0	76 0	140 2	76 0	96 3	128 2	140 2	140 2	191 6	262 1	320 8	323 5	167 8	154 2
Decade 3			100 3	100 3	176 7	100 3	124 0	158 6	176 7	176 7	226 4	290 3	391 6	394 8	209 5	178 5
Decade 4			100 8	100 8	183 0	100 8	124 0	158 6	182 4	182 4	226 4	290 3	396 7	457 7	210 6	179 0
Decade 5			105 5	105 5	183 0	105 5	124 0	158 6	182 4	182 4	226 4	290 3	396 7	492 3	210 6	183 7
Decade 10			105 5	105 5	183 0	105 5	124 0	158 6	182 4	182 4	226 4	290 3	396 7	492 3	210 6	183 7
Decade 15			105 5	105 5	183 0	105 5	124 0	158 6	182 4	182 4	226 4	290 3	396 7	492 3	210 6	183 7

(Table 11-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt F1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
Total Dispersed																
Recreation	M RVD	757 7														
Decade 1			807 2	807 2	807 2	807 2	809 4	808 3	808 3	808 3	808 3	838 3	807 2	807 2	808 3	808 3
Decade 2			1012 9	986 4	1012 9	986 4	1002 4	1014 3	1014 2	1014 2	1022 7	1007 1	1012 9	940 7	941 8	1006 5
Decade 3			1215 2	1031 2	1174 8	1031 2	1068 9	1213 0	1216 8	1216 8	1215 5	1138 5	1215 2	1215 2	1200 9	1192 7
Decade 4			1433 2	1101 7	1297 8	1101 7	1157 3	1439 1	1424 4	1424 4	1433 1	1291 2	1401 0	1458 6	1340 8	1416 5
Decade 5			1658 2	1326 4	1517 8	1326 4	1377 3	1659 1	1644 4	1644 4	1656 8	1511 2	1621 0	1713 2	1560 8	1666 8
Decade 10			3736 9	3405 1	3596 5	3405 1	3456 0	3737 8	3723 1	3723 1	3735 5	3589 9	3699 7	3791 9	3639 5	3745 5
Decade 15			4462 6	4130 8	4322 2	4130 8	4181 7	4463 5	4448 8	4448 8	4461 2	4315 6	4425 4	4517 6	4365 2	4471 2
Hunter Recreation	M RVD	60 5														
Decade 1			57 3	65 0	73 9	81 2	81 1	83 8	83 8	83 8	93 6	79 3	73 9	67 6	83 8	80 1
Decade 2			51 1	88 7	90 9	89 2	134 8	117 8	111 1	106 6	109 3	85 1	94 5	74 8	117 8	109 4
Decade 3			47 0	81 5	88 7	86 5	153 7	118 3	120 5	110 2	99 0	82 4	93 2	74 8	118 3	131 4
Decade 4			26 9	74 8	86 0	81 5	130 4	102 1	102 1	104 4	94 1	79 7	80 6	61 8	102 1	143 1
Decade 5			18 8	68 1	78 0	77 1	82 4	85 6	86 0	83 8	103 0	76 6	73 9	61 8	85 6	142 7
Decade 10			17 9	44 8	65 6	53 8	108 0	84 7	84 7	107 1	99 5	61 4	73 9	61 8	84 7	161 6
Decade 15			13 4	44 4	55 6	45 7	43 0	83 8	83 8	83 8	93 6	55 6	73 9	61 8	83 8	121 5
Fishing Recreation	M RVD	57 4														
Decade 1			61 5	61 5	61 5	61 5	61 5	61 5	61 5	61 5	61 5	61 5	61 5	61 5	61 5	61 5
Decade 2			76 4	76 4	76 4	76 4	76 4	76 4	76 4	76 4	76 4	76 4	76 4	76 4	76 4	76 4
Decade 3			91 6	87 7	92 0	91 6	91 6	91 6	91 6	91 6	91 6	91 6	91 6	91 6	91 6	91 6
Decade 4			110 3	101 2	108 2	105 1	106 6	108 7	109 1	108 2	108 8	110 3	112 2	112 4	109 0	104 4
Decade 5			125 5	113 4	124 4	108 0	121 1	125 0	125 8	121 1	125 4	126 2	128 8	131 4	125 3	121 5
Decade 10			260 6	240 0	259 9	243 0	249 9	258 5	261 6	258 0	268 9	274 8	290 7	296 5	264 8	257 6
Decade 15			307 7	287 0	302 4	290 2	292 1	302 4	303 7	304 7	315 0	319 6	338 8	354 7	308 3	299 8
Wilderness Management	M ACRES	259 2	0	259 2	449 5	259 2	304 7	389 6	448 1	448 1	556 4	713 2	974 7	1209 5	517 5	457 4
Unroaded Management	M ACRES		0	0	92 7	0	70 7	293 3	188 4	188 4	290 5	0	14 4	0	168 9	242 2
Visual Quality on																
Suitable Timberland	M ACRES															
Retention			0	1 2	58 4	0	0 3	41 1	42 0	42 0	48 1	48 0	27 6	13 0	41 1	36 1
Partial Retention			0	56 7	96 5	80 3	76 8	118 0	142 6	144 4	87 4	86 6	93 7	52 0	124 5	145 9
Modification			0	973 3	724 5	875 5	864 3	659 2	701 2	709 7	553 4	674 9	456 8	395 0	665 8	694 5
Max Modification			0	217 1	161 3	197 2	193 0	122 6	108 8	109 3	104 3	150 0	87 0	87 6	117 8	111 4

(Table II-24 cont )

Resource	Units	Base	AMS	AMS	Alt	Alt	Alt	Alt	Alt	Alt	Alt	Alt	Alt	Alt	Alt	Alt
		1980	MLVL	M PNV	A	B	C	D	E	E1	F	G	H	I	J	K
Total Trails	MILES	1732	1732	1763	1772	1763	1764	1768	1772	1772	1778	1782	1792	1800	1775	1772
Elk Habitat - Summer	M ELK															
Decade 1			18 2	21 2	21 1	20 7	21 9	27 5	29 9	29 8	27 7	19 5	21 3	17 0	27 5	34 0
Decade 2			18 2	19 8	20 3	19 9	21 2	26 9	29 3	29 3	27 3	19 0	21 1	16 9	26 9	33 5
Decade 3			18 2	18 2	19 8	19 3	20 6	26 4	28 9	28 7	26 7	18 4	20 8	16 7	26 4	33 3
Decade 4			18 2	16 7	19 2	18 2	19 6	25 9	28 5	28.2	26 4	17 8	20 5	16 6	25 9	32 8
Decade 5			18 2	15 2	18 6	17 2	18 7	25 5	28.3	26 4	26 2	17 1	20 3	16 5	25 5	32 1
Decade 10			18 2	10 0	14 7	12 0	14 0	22 4	25 5	23 9	24 2	13 7	19 0	15 9	22 5	29.6
Decade 15			18 2	9 9	12 4	10 2	11 6	21 3	23 4	23 6	23 8	12 6	18 8	15 8	21 3	29 4
Elk Habitat - Winter	M ELK															
Decade 1			12 8	14 5	16 5	18 1	18 1	18.7	18 7	18 7	20 9	17 7	16 5	15 1	18 7	17.8
Decade 2			11 4	29 8	30 7	30 5	30 1	26 3	24 8	23 8	24 4	25 8	21 9	16 7	26 3	24 3
Decade 3			10 5	35 0	29 6	34 5	34 3	27 7	26 9	24 6	22 1	29 5	21 8	16 9	27 7	29 2
Decade 4			6 0	26 5	20 6	29.0	29 1	22 8	22 8	23 3	21 0	25 4	18 0	13 8	22 8	31 8
Decade 5			4 2	22 8	17 4	19 1	18 4	19 1	19 2	18 7	23 0	21.1	16 5	13 8	19 1	31 7
Decade 10			4 0	32 4	16 5	22 2	24 1	18 9	18 9	24 4	22 2	22 4	16 5	13 8	18 9	35 9
Decade 15			3 0	18 7	16 5	12 1	9 6	18 7	18 7	18 7	20 9	13 7	16 5	13 8	18 7	27 0
Elk Habitat																
Potential	M ELK	13 5														
Decade 1			12 8	14 5	16 5	18 1	18 1	18 7	18 7	18 7	20 9	17 7	16 5	15 1	18 7	17 8
Decade 2			11 4	19 8	20 3	19 9	21 2	26 3	24 8	23 8	24 4	19 0	21 1	16 7	26 3	24 3
Decade 3			10 5	18 2	19 8	19 3	20 6	26 4	26 9	24.6	22 1	18 4	20 8	16 7	26 4	29 2
Decade 4			6 0	16 7	19 2	18 2	19 6	22 8	22 8	23 3	21 0	17 8	18 0	13 8	22 8	31 8
Decade 5			4 2	15 2	17 4	17 2	18 4	19 1	19 2	18 7	23 0	17 1	16 5	13 8	19 1	31 7
Decade 10			4 0	10 0	14 7	12 0	14 0	18 9	18 9	23 9	22 2	13 7	16 5	13 8	18 9	29 6
Decade 15			3 0	9 9	12 4	10 2	9 6	18 7	18 7	18 7	20 9	12.4	16 5	13 8	18 7	27 0
Elk Winter Habitat																
Improvement - (Average	ACRES	175														
Annual) - All Decades			0	105	4182	2732	3188	3471	3438	3335	5388	2808	1424	218	3471	1300

(Table II-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
<hr/>																
Anadromous Fish -																
Steelhead Trout																
Potential	M SMOLT	252 0														
Decade 1			288 3	249 6	233 6	250 1	250 1	256 8	250 0	250 0	256 8	250 1	240 4	257.0	256 8	250 1
Decade 2			288 3	184 8	217 7	186 4	234 2	249 3	249 0	204 0	249 0	233 9	232 7	256 4	249 3	249 9
Decade 3			288 3	170 1	213 6	178 7	230 2	247 3	249 0	204 0	249 0	229 9	231 4	247.5	247 3	252 2
Decade 4			288 3	154 9	209 6	168 0	226 2	245 0	249 0	204 0	244 6	226 1	229 3	245 4	245 0	249 9
Decade 5			288 3	139 7	205.5	137 0	222 1	243 0	249 0	204 0	242 2	222 2	227 5	243 4	243 0	238 2
Decade 10			288 3	139 7	205.5	137 0	222 1	243 0	249 0	204 0	242 2	222 2	227 5	243.4	243 0	238 2
Decade 15			288 3	139 7	205 5	137 0	222 1	243 0	249 0	204 0	242 2	222 2	227 5	243 4	243 0	238 2
Anadromous Fish -																
Chinook Salmon																
Potential	M SMOLT	319 5														
Decade 1			429 2	365 9	367.3	373 8	367 3	386 3	367 3	367 3	386 3	367 3	386 3	386 3	386 3	367 1
Decade 2			429 2	221 2	348.7	227 8	348 7	367 3	367 3	242 6	350 6	349 2	367 3	366 8	367 3	378 1
Decade 3			429 2	204 7	346.1	215 8	346 1	365 4	367 3	242 6	347 9	346 5	365 4	364 9	365 4	366 1
Decade 4			429 2	187 9	342.9	200 7	342 9	363 5	367 3	242 6	344 8	343.4	363 5	362 6	363 5	378 1
Decade 5			429 2	171 0	340.2	188 7	340 2	361 7	367 3	242 6	342 1	340.7	361 7	360.8	361 7	353 0
Decade 10			429 2	171 0	340.2	188 7	340 2	361 7	367.3	242 6	342 1	340.7	361 7	360 8	361 7	353 0
Decade 15			429 2	171 0	340 2	188 7	340 2	361 7	367 3	242 6	342 1	340 7	361 7	360.8	361 7	353 0
Resident Fish -																
Catchable Trout																
Potential	M FISH	523 6														
Decade 1			598 4	438 0	522.4	501 8	522.4	536 1	536 1	536 3	536 4	501 8	536 6	536.6	536 4	520 8
Decade 2			598 4	397 6	519.4	518 3	505 2	535 4	535 4	535 6	535 8	483 5	536 1	536 1	535 8	513 5
Decade 3			598 4	370 7	516.0	516 0	499 9	535 4	535 4	535 6	535.2	498 7	535 7	535.7	535 2	523 0
Decade 4			598 4	346 4	513.2	512.0	495 2	535.4	535 4	535 6	534 6	473 5	535 3	535.3	534 6	500 5
Decade 5			598 4	319 6	509.7	508 6	489 9	535 4	535 4	535 6	533.9	468 7	534 1	534 8	533 9	494 6
Decade 10			598 4	319 6	509.7	508.6	489.9	535 4	535 4	535 6	533.9	468.7	534 1	534 8	533 9	494 6
Decade 15			598 4	319 6	509.7	508 6	489.9	535 4	535.4	535 6	533 9	468 7	534 1	534.8	533 9	494 6
Fish Habitat																
Improvement																
Decade 1																
(Average Annual)	ACRES	395	0	438	0	438	438	219	219	219	110	219	110	43	219	219

(Table II-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
Gray Wolf																
All Decades (Average Annual)	EACH	10	20	5	10	6	8	14	15	15	16	13	18	20	15	16
Old Growth on All																
Lands (Decade 10)	M ACRES	354	1253	618	725	625	630	753	764	699	800	728	855	954	750	558
Projected Grazing																
Use	M AUM	16 4														
Decade 1			0	16	16	16	16	16	16	16	16	16	16	16	16	16
Decade 2			0	17	17	17	17	17	17	17	17	17	17	17	17	17
Decade 3			0	17	17	17	17	17	17	17	17	17	17	17	17	17
Decade 4			0	18	18	18	18	18	18	18	18	18	18	18	18	18
Decade 5			0	20	20	20	20	20	20	20	20	20	20	20	20	20
Decade 10			0	20	20	20	20	20	20	20	20	20	20	20	20	20
Decade 15			0	20	20	20	20	20	20	20	20	20	20	20	20	20
Potential Grazing																
Use	M AUM															
Decade 1			0	97 9	56 2	70 5	66 5	55 0	49 3	44 6	50 0	59 8	43 5	36 9	55 0	54 4
Decade 2			0	112 9	67 9	83 1	78 7	65 1	60 5	66 0	58 7	70 3	50 6	42 2	65 1	70 2
Decade 3			0	134 2	78 7	98 3	92 8	78 0	70 7	99 9	71 1	84 7	61 6	51 9	78 0	90 8
Decade 4			0	155 5	92 3	112 4	106 5	90 5	83 4	104 2	82 5	98 7	71 8	61 1	90 8	115 0
Decade 5			0	182 6	115 0	142 7	135 2	111 8	101 5	296 3	101 9	122 0	88 3	74 7	111 9	144 6
Decade 10			0	202 6	167 5	194 7	190 5	154 6	159 5	145 4	130 6	159 0	114 1	91 5	155 3	154 9
Decade 15			0	209 0	171 3	198 5	195 6	157 7	163 3	124 2	132 2	161 8	116 2	93 0	158 6	155 7
Suitable Timberland	M ACRES		0	1248 5	1041 0	1153 0	1134 3	941 0	997 4	1008 2	793 1	959 6	693 9	547 5	949 2	988 0
Allowable Sale Quantity																
Decade 1	MMCF	37 6	0	66 6	39 2	48 7	46 0	38 1	34 8	31 2	34 6	41 2	30 0	25 4	38 1	38 1
Projected Sale Quantity																
Decade 2	MMCF		0	76 5	44 3	55 4	52 2	43 2	39 1	43 3	39 3	47 0	34 2	29 0	43 2	46 6
Decade 3			0	91 8	53 1	66 4	62 7	51 9	47 0	65 9	47 2	56 4	41 0	34 8	51 9	60 2
Decade 4			0	110 2	63 8	79 7	75 2	62 2	56 4	70 5	56 7	67 6	49 2	41 8	62 2	78 3
Decade 5			0	129 9	76 5	95 7	90 3	74 7	67 6	205 0	68 0	81 2	59 0	50 1	74 7	96 8
Decade 10			0	129 9	103 0	120 6	118 4	95 3	98 3	90 0	80 3	98 2	70 2	56 6	95 8	96 8
Decade 15			0	129 9	103 0	120 6	118 4	95 3	98 3	76 9	80 3	98 2	70 2	56 6	95 8	96 8

(Table II-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt F	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
Allowable Sale Quantity	MMBF	169 0														
Decade 1			0	309 1	180 9	225 3	213 1	176 1	159 5	145 5	159 6	190 9	138 8	117 4	176 2	173 3
Projected Sale Quantity	MMBF															
Decade 2			0	342 0	205 8	251 7	238 6	197 2	183 4	200 0	177 9	213 0	153 2	128 0	197 2	212 0
Decade 3			0	406 7	238 5	297 8	281 3	236 4	214 3	302 6	215 4	256 6	186 8	157 3	236 4	273 9
Decade 4			0	471 3	279 8	340 5	322 6	274 3	252 6	315 8	250 1	299 1	217 6	185 0	275 1	356 3
Decade 5			0	553 4	348 5	432 3	409 6	338 9	307 5	898 0	308 8	369 6	267 5	226 3	339 0	440 4
Decade 10			0	613 8	507 5	589 9	577 2	468 5	483 3	440 6	395 8	481 7	345 8	277 2	470 7	440 4
Decade 15			0	633 2	519 1	601 5	592 6	477 8	494 8	376 3	400 5	490 4	352 0	281 9	480 6	440 4
Timber Harvest	M ACRES	5 9														
Decade 1			0	12 4	7 1	9 1	8 6	7 2	6 5	6 3	6 6	7 9	5 7	4 9	7 2	11 2
Decade 2			0	11 9	8 3	8 3	7 9	7 6	7 2	8 3	6 9	8 2	5 6	4 9	7 6	12 9
Decade 3			0	15 5	9 5	9 5	9 2	8 0	7 5	10 0	7 2	8 7	6 3	5 1	8 0	18 9
Decade 4			0	19 8	10 5	11 4	10 6	9 6	8 7	13 8	8 7	10 1	7 1	6 1	9 6	19 7
Decade 5			0	21 6	10 5	10 9	10 0	9 3	8 5	30 3	8 3	9 9	7 5	5 9	9 3	23 5
Decade 10			0	26 9	19 1	21 1	19 8	17 7	18 1	22 0	15 0	19 0	12 6	9 9	17 8	22 2
Decade 15			0	28 2	23 1	21 3	20 8	20 6	21 4	18 0	17 6	21 3	14 5	11 3	21 0	24 1
Clearcutting	M ACRES	1 3														
Decade 1			0	8 4	5 0	6 4	5 9	4 9	4 5	3 8	4 5	5 4	3 9	3 3	4 9	5 3
Decade 2			0	8 3	4 4	5 8	5 5	4 4	3 9	4 4	4 0	4 8	3 5	3 0	4 4	5 5
Decade 3			0	10 5	5 1	6 6	6 3	4 9	4 4	6 4	4 5	5 4	3 9	3 3	4 9	5 2
Decade 4			0	10 7	5 9	8 0	7 4	5 8	5 0	5 6	5 2	6 2	4 5	3 8	5 7	6 0
Decade 5			0	13 3	5 7	7 6	6 9	5 8	5 1	20 0	5 2	6 2	4 7	3 8	5 8	8 3
Decade 10			0	11 9	8.1	9 8	9 8	7 6	7 9	7 0	6 4	7 8	5 5	4 7	7 7	7 7
Decade 15			0	11 0	7 1	9 2	9.0	6 7	6 0	6 1	5 6	7 1	4 6	4 1	6 7	8 4
Shelterwood	M ACRES	3 6														
Decade 1			0	3 6	2 1	2 7	2 5	2 1	1 9	1 6	1 9	2 3	1 7	1 4	2 1	4 1
Decade 2			0	3 6	1.9	2.5	2 4	1 9	1 7	1 9	1 7	2 1	1 5	1.3	1 9	3 1
Decade 3			0	4 5	2 2	2 8	2 7	2 1	1 9	2 7	1 9	2 3	1 7	1 4	2 1	5 2
Decade 4			0	4 6	2 5	3 4	3 2	2 5	2 1	2 4	2 2	2 7	1 9	1 6	2 4	2 7
Decade 5			0	5.7	2 5	3 3	3 0	2 5	2 2	8 6	2 2	2 7	2 0	1 6	2 5	3 5
Decade 10			0	5 1	3 5	4.2	4 2	3 3	3 4	3 0	2 7	3 3	2 4	2 0	3 3	3 3
Decade 15			0	4 7	3 0	3 9	3 8	2 9	2 6	2 6	2 4	3 1	2 0	1 8	2 9	3 6

(Table II-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
Selection	M ACRES	1 0														
Decade 1			0	0 4	0	0	0.1	0.1	0 1	0 9	0 1	0 1	0 1	0.1	0 1	1 9
Decade 2			0	0	2 0	0	0	1 4	1 6	2 0	1 2	1 2	0 6	0 6	1 4	2 5
Decade 3			0	0 4	2 2	0	0 1	1 1	1 2	0 9	0 8	1.0	0 7	0 4	1.0	6 0
Decade 4			0	0	2 0	0	0	1 4	1 6	2.0	1.2	1 3	0.6	0 6	1 4	5.6
Decade 5			0	0 4	2.3	0	0.1	1 0	1 3	1 0	0 8	1 1	0 8	0 4	1.0	6 1
Decade 10			0	0	3 5	0	0	2 9	3 1	3 5	2 3	2.5	1 8	1.1	2 9	5 9
Decade 15			0	0 4	5 5	0	0 1	4.1	4 1	3 6	3 4	4.0	3 2	1.5	4.1	6 5
Commercial Thinning	M ACRES	0 0														
Decade 1			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decade 2			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decade 3			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decade 4			0	4 4	0	0	0	0	3 9	0	0	0	0	0	0	0
Decade 5			0	2 1	0	0	0	0	0 7	0	0	0	0	0	0	0
Decade 10			0	9 9	4 0	7 2	5 8	3 9	3 7	8 4	3 6	5 4	2 9	2 1	3 9	4 7
Decade 15			0	12 1	7 5	8 2	7 9	7 0	8 7	5 8	6 2	7 1	4 6	4 0	7 3	4 1
Long Term Sustained Yield	MMCF	56 6	0 0	129 9	103 0	120 6	118 4	95 3	98 3	98.3	80 3	98 2	70 2	56 6	95 8	96 8
Long Term Sustained Yield	MMBF	255 0	0 0	584 6	463 5	542 6	532 7	428 7	442 5	442 5	361 1	441.8	315 8	254 8	431 2	440 4
Reforestation	ACRES	5801														
Decade 1			0	15123	8137	10837	9968	8439	7840	7855	8000	9192	6553	6102	8404	12533
Decade 2			0	16397	9815	10828	9919	9526	9127	10673	9042	10122	6929	6694	9490	10440
Decade 3			0	15475	9480	9472	9152	9251	7510	10047	7172	8696	6255	5075	7995	12291
Decade 4			0	15340	10459	11406	10641	9624	8679	9965	8659	10140	7122	6053	9564	10693
Decade 5			0	19444	10457	10866	10018	9268	8491	29586	8304	9917	7519	5869	9291	11799
Decade 10			0	17049	15096	13988	13958	13768	14398	13528	11419	13635	9685	7801	13935	10989
Decade 15			0	16088	15584	13079	12906	13651	12689	12258	11388	14229	9851	7377	13645	11932



(Table II-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
<hr/>																
Timber Stand																
Improvement	ACRES	1681														
Decade 1			0	7077	2481	3308	3040	2472	2204	3610	2302	2758	2080	1767	2472	1928
Decade 2			0	10615	3721	4962	4559	3709	3306	5415	3452	4137	3120	2650	3709	1616
Decade 3			0	10989	5391	7363	6969	5366	4697	5434	4770	6033	4431	3910	5383	1179
Decade 4			0	14176	6347	18581	8156	6088	5395	8232	5474	6772	4634	4337	6088	1118
Decade 5			0	14449	7556	10515	9751	7343	6184	7071	6558	7978	5601	5095	7283	1590
Decade 10			0	16347	10705	14178	13744	10089	9943	6900	8681	10548	7684	6074	10115	1499
Decade 15			0	16862	9711	15062	13141	9150	7891	7795	8479	10569	7116	6038	9408	1646
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Sediment Above																
Natural	M TONS															
Decade 1			0	1 38 9	17 5	21 7	19 8	16 2	15 2	16 4	14 5	17 6	11 9	9 4	16 2	10 5
Decade 2			0	47 1	26 4	24 8	24 3	22 1	22 5	24 0	17 9	21 4	13 3	9 4	22 0	9 4
Decade 3			0	55 6	31 1	32 4	29 4	26 4	22 4	35 8	23 0	30 1	20 6	16 7	26 4	9 7
Decade 4			0	55 6	37 8	52 9	45 5	28 3	26 2	33 9	25 8	40 4	21 1	16 7	28 3	10 6
Decade 5			0	39 2	24 9	44 2	36 7	15 5	11 8	36 1	17 1	26 0	15 5	16 7	14 7	11 7
Decade 10			0	47 5	25 1	32 4	26 1	21 7	23 0	27 0	17 7	24 6	15 5	13 6	21 0	9 0
Decade 15			0	44 5	32 4	39 3	41 3	25 9	25 7	24 5	22 6	33 5	19 5	15 0	25 2	6 7
<hr/>																
Water Quality/Fishery																
Standards for																
Anadromous Habitat	PERCENT															
No Effect			100	11	28	10	11	32	33	33	39	34	45	63	32	58
High Fishable			0	0	0	0	0	63	66	66	56	0	50	32	63	42
Moderate Fishable			0	0	67	0	85	4	0	0	4	0	4	4	4	0
Low Fishable			0	0	4	89	3	0	0	0	0	65	1	1	0	0
Minimum Viable			0	89	1	1	1	1	1	1	1	1	0	0	1	0
<hr/>																
Water Quality/Fishery																
Standards for																
Resident Habitat	PERCENT															
No Effect			100	3	18	3	5	29	24	24	41	31	52	65	29	22
High Fishable			0	0	0	0	0	61	68	68	49	0	38	25	61	52
Moderate Fishable			0	0	72	0	85	2	0	0	2	0	7	7	2	3
Low Fishable			0	0	7	94	7	5	5	5	5	66	3	3	5	10
Minimum Viable			0	97	3	3	3	3	3	3	3	3	0	0	3	13

(Table II-24 cont )

Resource		Base 1980	AMS MLVL	AMS M PNVL	Alt A	Alt B	Alt C	Alt D	Alt F	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
Minerals Management	CASES	72														
Decade 1			265	265	265	265	265	265	265	265	265	265	265	265	265	265
Decade 2			265	265	265	265	265	265	265	265	265	265	265	265	265	265
Decade 3			267	267	267	267	267	267	267	267	267	267	267	267	267	267
Decade 4			267	267	267	267	267	267	267	267	267	267	267	267	267	267
Decade 5			270	270	270	270	270	270	270	270	270	270	270	270	270	270
Decade 10			270	270	270	270	270	270	270	270	270	270	270	270	270	270
Decade 15			275	275	275	275	275	275	275	275	275	275	275	275	275	275
Locatable Minerals																
Category A	M ACRES															
Low Potential			0	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	9 0
Moderate Potential			0	0	0	0	0	0	0	0	0	0	0	0	0	1
High Potential			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Very High Potential			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total			0	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	9 1
Category B	M ACRES															
Low			0	257 4	486 2	257 4	301 2	413 0	509 6	509 6	606 1	701 3	962 3	1157 3	538 3	549 7
Moderate			0	1 8	9 9	1 8	3 4	6 9	8 0	8 0	9 3	11 6	12 1	38 2	9 5	10 1
High			0	0	4 5	0	0	0	0	0	2 6	2 6	4 5	12 2	0	0
Very High			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total			0	259 2	496 1	259 2	304 6	420 0	517 6	517 6	617 9	715 4	974 6	1209 5	547 8	559 8
Category C	M ACRES															
Low			0	433 9	389 7	433 9	466 2	598 6	670 7	670 7	599 9	268 2	302 1	112 6	581 8	609 1
Moderate			0	32 2	30 3	32 2	31 0	33 9	28 9	28 9	27 7	24 5	41 6	19 9	27 3	25 5
High			0	17 4	14 1	17 4	17 8	7 8	15 7	15 7	11 0	11 7	10 2	7 5	15 5	13 4
Very High			0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total			0	484 0	430 0	484 0	513 3	717 0	715 4	715 4	641 7	304 4	353 9	146 3	624 6	648 3
Category D	M ACRES															
Low			1653 4	982 7	817 7	982 7	459 5	624 9	537 6	537 6	513 5	733 6	450 6	425 4	592 6	562 8
Moderate			91 8	54 7	44 8	54 7	506 6	34 7	29 9	29 9	28 5	39 4	25 2	24 0	33 0	31 0
High			73 5	43 8	35 8	43 8	40 4	27 8	23 9	23 9	22 8	31 6	20 1	19 2	26 4	24 8
Very High			18 4	4 5	4 5	4 5	4 5	4 5	4 5	4 5	4.5	4 5	4 5	4 5	4 5	1 2
Total			1837 1	1085 7	902 8	1085 7	1011 0	691 9	595 9	595 9	569 3	809 1	500 4	473 1	656 5	619 8

(Table II-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
<b>Leasable Minerals</b>																
Category A	M ACRES															
Low			0	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	9 1
Moderate			0	0	0	0	0	0	0	0	0	0	0	0	0	0
High			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Very High			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total			0	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	8 2	9 1
Category B	M ACRES															
Low			0	259 2	496 2	259 2	304 6	420 0	517 7	517 7	617 9	715 4	974 6	1208 8	547 8	558 6
Moderate			0	0	0	0	0	0	0	0	0	0	0	0	0	1 2
High			0	0	0	0	0	0	0	0	0	0	0	0 6	0	0
Very High			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total			0	259 2	496 2	259 2	304 6	420 0	517 7	517 7	617 9	715 4	974 6	1209 5	547 8	559 8
Category C	M ACRES															
Low			0	481 9	425 8	481 9	511 7	715 4	712 0	712 0	640 1	302 8	352 3	144 7	623 1	644 2
Moderate			0	0	2 6	0	0	0	1 0	1 0	0	0	0	0	0	2 5
High			0	1 6	1 6	1 6	1 6	1 6	1 6	1 6	1 6	1 6	1 6	1 6	1 6	1 6
Very High			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total			0	483 5	430 0	483 5	513 3	717 0	714 6	714 6	641 7	304 4	353 9	146 3	624 6	648 3
Category D	M ACRES															
Low			1745 2	1059 9	876 4	1059 9	984 7	665 6	570 3	570 3	543 0	782 8	474 1	446 8	633 2	619 8
Moderate			18 4	5 8	5 8	5 8	5 8	5 8	5 8	5 8	5 8	5 8	5 8	5 8	5 8	0
High			55 1	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	0
Very High			18 4	4 5	4 5	4 5	4 5	4 5	4 5	4 5	4 5	4 5	4 5	4 5	4 5	0
Total			1837 1	1086 2	902 7	1086 2	1011 0	691 9	596 6	596 6	569 3	809 1	500 4	473 1	656 5	619 8
Total Roads Needed for Management	MILES	4234	4234	11124	9904	10544	10284	9114	9114	9474	8294	9324	7724	6584	9154	8697
Road Construction	MILES	40														
Decade 1			0	119	62	69	64	62	62	61	55	61	43	29	62	69
Decade 2			0	87	90	84	83	70	77	77	54	70	41	25	70	60
Decade 3			0	125	73	69	67	65	61	82	62	75	49	33	65	39
Decade 4			0	141	75	116	104	65	58	88	60	66	51	35	63	53
Decade 5			0	89	33	52	45	28	20	85	31	38	30	23	28	51
Decade 10			0	15	20	18	19	17	15	12	13	18	17	11	17	12
Decade 15			0	0	0	0	0	0	0	0	0	0	0	0	0	0

(Table II-24 cont )

Resource	Units	Base 1980	AMS MLVL	AMS M PNVL	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
<hr/>																
Arterial/Collector																
Road Construction	MILES															
Decade 1			0	19	13	13	13	11	13	13	10	8	4	0	11	13
Decade 2			0	8	9	10	10	4	7	7	3	4	1	0	4	13
Decade 3			0	9	4	9	7	6	6	6	3	7	3	0	6	7
Decade 4			0	6	9	9	9	8	8	8	4	6	1	0	8	4
Decade 5			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decade 10			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Decade 15			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Road																
Construction	MILES															
Decade 1			0	100	49	56	51	51	49	48	45	53	39	29	51	56
Decade 2			0	79	81	74	73	66	70	70	51	66	40	25	66	47
Decade 3			0	116	69	60	60	59	55	76	59	68	46	33	59	32
Decade 4			0	135	66	107	95	57	50	80	56	60	50	35	55	49
Decade 5			0	89	33	52	45	28	20	85	31	38	30	23	28	51
Decade 10			0	15	20	18	19	17	15	12	13	18	17	11	17	12
Decade 15			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Purchaser Credit																
Road Construction	MILES															
Decade 1			0	92	45	52	47	47	45	44	41	49	36	25	47	48
Decade 2			0	67	69	64	62	56	60	60	43	56	34	22	56	41
Decade 3			0	98	58	51	51	50	47	65	50	58	39	28	50	28
Decade 4			0	114	56	91	80	49	43	68	48	51	42	30	47	41
Decade 5			0	76	28	44	38	24	17	72	27	32	26	19	24	42
Decade 10			0	12	20	15	16	15	13	10	11	15	14	10	14	10
Decade 15			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Investment																
Road Construction	MILES															
Decade 1			0	27	16	17	17	16	16	16	13	13	8	3	16	21
Decade 2			0	20	20	21	20	14	18	18	10	14	7	4	14	19
Decade 3			0	26	14	17	16	14	13	16	11	17	9	5	14	12
Decade 4			0	26	19	25	23	17	16	20	12	15	8	5	16	12
Decade 5			0	13	5	8	7	4	3	13	5	6	5	3	4	9
Decade 10			0	2	3	3	3	3	2	2	2	3	3	2	3	2
Decade 15			0	0	0	0	0	0	0	0	0	0	0	0	0	0

(Table II-24 cont )

Resource		Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
<hr/>																	
Local Forest Related																	
Employment		JOBS	3038														
Decade	1			895	5014	3383	3923	3770	3340	3132	2979	3132	3514	2897	2638	3340	3395
Decade	5			1754	9053	6498	7491	7218	6373	5992	13292	6007	6777	5549	5064	6378	7475
<hr/>																	
Local Forest Related																	
Income		M\$	59629														
Decade	1			11298	104076	66540	79102	75565	65498	60627	56863	60648	69454	55216	49254	65505	67082
Decade	5			21685	188928	128963	152620	146113	126033	117063	287722	117407	135243	106168	94527	126109	152916
<hr/>																	
Total Forest																	
Service Costs		M\$	14202														
Decade	1			2532	24734	16180	17690	17133	16173	15833	16922	14710	16519	14399	13080	16195	19581
Decade	2			2532	25795	19247	20862	19932	18571	18501	18932	17635	19067	15829	14894	18567	18804
Decade	3			2532	27231	18837	19542	19026	17655	17031	20020	16747	18803	15651	14106	17647	16152
Decade	4			2532	30090	19622	22647	21596	18674	17722	21822	17722	19292	16200	14742	18574	19761
Decade	5			2532	31257	18989	21679	20641	18004	16973	38233	17201	19498	16546	14889	18024	20407
Decade	10			2532	27433	22692	23962	23710	21422	21751	21867	19449	22052	18235	16285	21470	17684
Decade	15			2532	26395	22645	22693	22523	21296	21627	19837	19548	21842	18021	15812	21490	16680
<hr/>																	
Road Costs		M\$															
Decade	1			576	9174	5212	5554	5332	5320	5262	5242	4161	5072	4197	3463	5320	6935
Decade	2			576	8150	7175	7243	7064	6298	6528	6544	5591	6256	4832	4063	6303	6239
Decade	3			576	10314	6791	7075	6778	6315	6087	7297	5897	6892	5273	4286	6315	4307
Decade	4			576	10714	6955	8698	8005	6399	6062	7368	5978	6471	5274	4372	6299	5742
Decade	5			576	10653	5893	7571	7189	5403	5032	11139	5225	6352	4971	4252	5423	6142
Decade	10			576	5335	4981	4874	5058	4550	4583	4216	4221	4614	4129	3719	4479	2858
Decade	15			576	4094	3815	3937	3900	3690	4091	3772	3454	3659	3442	3073	3723	1716
<hr/>																	
Recreation and Wildlife																	
Costs		M\$															
Decade	1			224	1599	1819	1593	1653	1867	1870	1862	1957	1916	2140	2204	1874	1036
Decade	2			224	1655	1872	1630	1697	1932	1966	2006	2035	1980	2269	2302	1938	950
Decade	3			224	1659	1867	1624	1690	1941	1995	2096	2087	1975	2265	2296	1947	973
Decade	4			224	2175	1852	1613	1833	1924	2052	2229	2091	1958	2255	2280	1962	981
Decade	5			224	1566	1852	1612	1678	1931	1946	3220	2055	1961	2254	2284	1927	988
Decade	10			224	1620	1860	1620	1685	1932	1969	2090	2022	1968	2210	2288	1938	1011
Decade	15			224	1597	1934	1623	1689	2012	2066	1965	2272	1971	2466	2290	2008	1012

(Table II-24 cont )

Resource		Units	Base 1980	AMS MLVL	AMS M PNV	Alt A	Alt B	Alt C	Alt D	Alt E	Alt E1	Alt F	Alt G	Alt H	Alt I	Alt J	Alt K
Timber Costs		M\$															
Decade 1				10	10065	5195	6601	6201	5020	4739	5857	4612	5564	4077	3415	5035	6100
Decade 2				10	12098	6315	8102	7285	6457	6123	6499	6127	6947	4848	4650	6442	6118
Decade 3				10	11434	6361	7023	6738	5583	5132	6809	4949	6118	4300	3712	5568	5449
Decade 4				10	13505	7125	8643	8065	6661	5919	8535	5964	7172	4984	4405	6624	7613
Decade 5				10	15336	7551	8800	8079	6977	6303	20165	6230	7493	5631	4666	6981	7944
Decade 10				10	16790	12163	13779	13277	11252	11512	11874	19519	11782	8210	6593	11365	8479
Decade 15				10	17016	13209	13445	13246	11907	11783	10415	10137	12526	8428	6767	12074	8616
Range Costs		M\$															
Decade 1				0	58	57	58	58	57	57	57	55	57	55	54	57	45
Decade 2				0	59	58	58	58	57	58	57	56	57	55	54	57	45
Decade 3				0	59	58	58	58	57	58	57	56	57	55	54	57	46
Decade 4				0	60	59	60	60	59	59	59	58	59	57	56	59	50
Decade 5				0	63	62	63	63	61	62	61	60	61	60	59	61	53
Decade 10				0	63	62	63	63	61	62	61	60	61	60	59	61	53
Decade 15				0	63	62	63	63	61	62	61	60	61	60	59	61	53
Other Costs		M\$															
Decade 1				1722	3878	3897	3884	3890	3910	3904	3904	3923	3910	3930	3943	3910	5465
Decade 2				1722	3832	3828	3829	3828	3826	3826	3825	3826	3827	3824	3824	3826	5453
Decade 3				1722	3766	3759	3761	3761	3759	3759	3761	3759	3760	3758	3757	3759	5377
Decade 4				1722	3637	3631	3634	3633	3631	3630	3631	3631	3632	3630	3629	3631	5376
Decade 5				1722	3640	3631	3633	3632	3631	3630	3648	3631	3631	3630	3629	3631	5281
Decade 10				1722	3625	3626	3627	3628	3626	3627	3625	3626	3627	3626	3626	3626	5284
Decade 15				1722	3625	3625	3625	3625	3625	3626	3625	3625	3625	3625	3625	3625	5284
Purchaser Credit																	
Road Costs		M\$	2308														
Decade 1				0	4739	2562	2880	2661	2650	2562	2525	1916	2732	2108	1653	2650	3843
Decade 2				0	3585	3610	3331	3304	2987	3178	3185	2407	3014	1939	1364	2991	3193
Decade 3				0	5131	3214	2858	2854	2798	2655	3490	2794	3176	2243	1703	2798	1941
Decade 4				0	6010	3186	4820	4304	2816	2546	3746	2755	2924	2443	1814	2725	3353
Decade 5				0	4365	1948	2725	2431	1719	1402	4011	1820	2112	1742	1375	1732	3896
Decade 10				0	1668	1675	1704	1712	1511	1407	1394	1288	1589	1373	1044	1492	964
Decade 15				0	1110	975	1049	1018	890	884	928	801	918	743	616	892	0